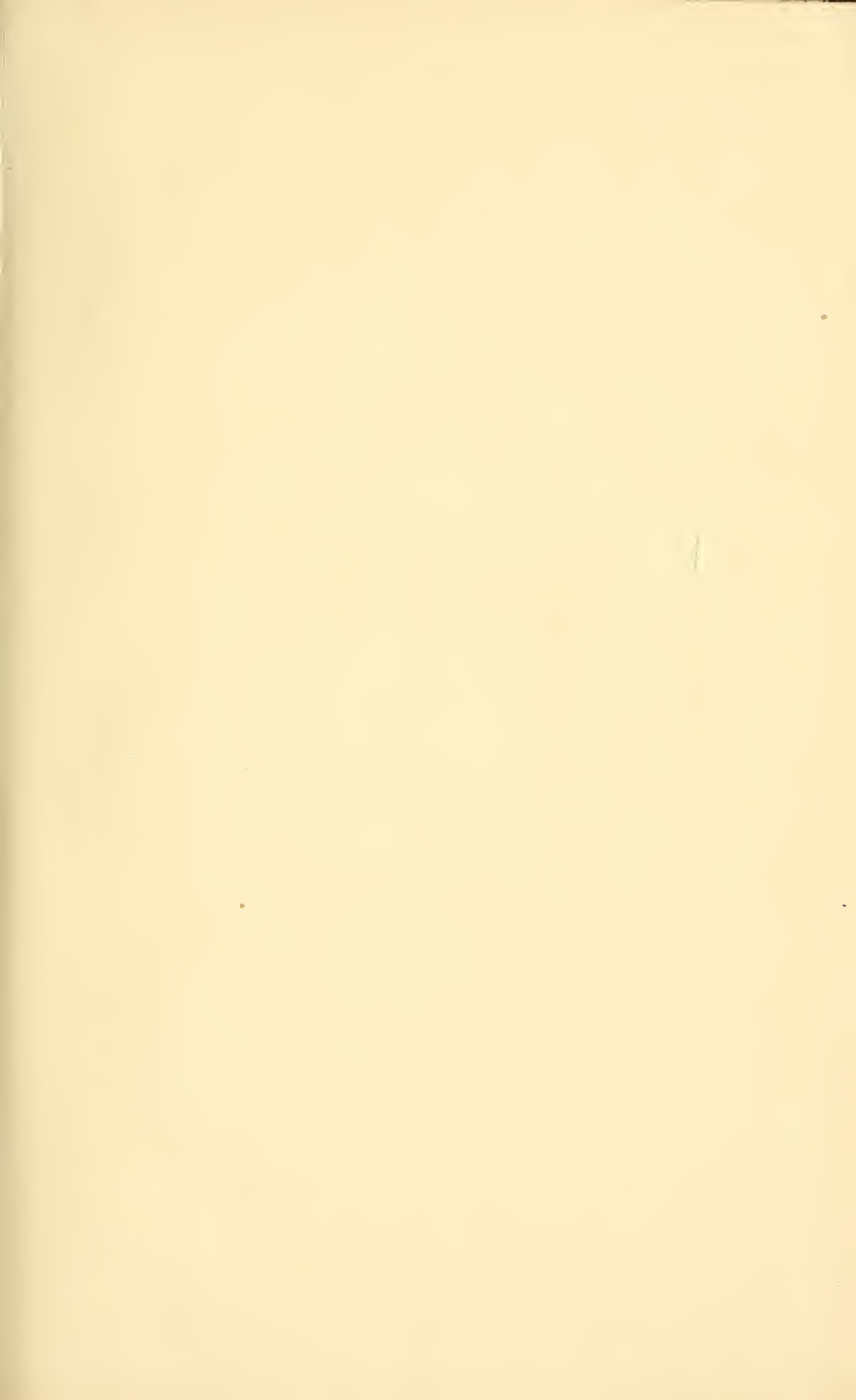





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THE
AMERICAN
AGRICULTURIST;

DESIGNED

TO IMPROVE THE PLANTER, THE FARMER, THE STOCK-BREEDER,
AND THE HORTICULTURIST.

AGRICULTURE IS THE MOST HEALTHY, THE MOST USEFUL, AND THE
MOST NOBLE EMPLOYMENT OF MAN.—*Washington.*

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A detailed black and white engraving of a rural landscape. In the foreground, a horse and a cow graze near a small stream with a fountain. A large tree stands on the left. In the middle ground, a two-story house with a porch and a large barn are visible. A path leads from the barn towards a windmill and a church spire in the background. The scene is framed by a decorative border.

LOSSING-RABBIT

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TO AGENTS.

Felling Timber, Fencing Stuff, &c.—Early winter, let it be remembered, is the proper season for cutting all kinds of hard-wood timber while the sap is low, but that of pine should be cut late in spring, when the pores of the wood is filled with resin, or pitch. Get out your stuff for posts and rails, and fashion them into shape, in order that they may be

in readiness to put up in spring. Cut and pile a sufficient supply of fire wood, this month, to last a year, in order to be hauled home when dry, as it is needed.

Threshing Grain and Shelling Corn.—See that these are attended to, if not done before, and carefully stored, free from vermin or wet, in order to be ready for a favorable sale. If you have much of this work to do, money will be saved by procuring the best machines designed for this purpose.

Winter Plowing.—Take advantage of every opportunity that offers during the winter months, and plow stiff soils intended for seeding in spring; but be sure and not meddle with such grounds while they are wet.

Care of Stock, &c.—See that all domestic animals are provided with proper food and drink (not ice water if it can be avoided), as well as with shelter and warmth. Interest no less than humanity dictate attention to their comfort and wants. Their yards, sheds, and stables should be perfectly dry. Cleanliness is not always to be expected, and in many instances is incompatible with economy, as the proper mixing of the manure with the vegetable matters, peat, turf, &c., in the yard, frequently requires that the manure be scattered all over it. But they must be kept out of the mire at all times and in all weathers. They should be under shelter in all severe storms or excessive cold; and they will thrive better, if in warm but well ventilated stables throughout the winter. Warm, dry shelter saves food as well as preserves health, and the rent of \$100 well laid out in proper buildings and sheds will go much further than the interest on \$100 in provender. The cows, mares, ewes, &c., that are coming in the ensuing spring, should be particularly looked after, and well, but not profusely fed. As they advance towards their time, they must be supplied with ample room. Separate stalls (box stalls), where they can be loose and free from disturbance from others, are particularly necessary with heavy or infirm animals; and in cold weather, this is essential for all the ewes and sows, equally with the largest animals.

Kitchen Garden.—Hot beds should now be made in the middle and western states by those desirous of having very early vegetables, such as lettuces, endive, dwarf cabbages, cauliflower, broccoli, parsley, asparagus, radishes, &c. By some attention, a great many little comforts may be procured in this way, and, if you live near a market, enough may be sold from your early vegetables to produce a profitable return.

Fruit Garden and Orchard.—Examine your orchards, and cut off all dead limbs close to the trunks or branches; scrape off the moss, and destroy all the chrysalides of cocoons or insects you can find. General pruning should be left until summer. Root-grafting may be performed this month as well as the next.

Flower Garden and Pleasure Grounds.—Should the ground continue open, hardy bulbs may be planted; if frozen, large trees may be transplanted, with a mass of earth adhering to the roots. Perform any work that may tend to forward the business of spring.

WORK FOR JANUARY, SOUTH.

As a considerable portion of the directions given in the work for north and west, this month, will apply to the south, it is not deemed necessary to repeat them here.

Grinding and Planting Sugar Cane.—Do not grind your canes any faster than they mature, for the sake of finishing your harvest. For, where hard frosts do not occur, it will sometimes be advantageous to allow them to continue in the ground until February; as then, their juices will be in a richer state. But, should the heavy frosts set in before the crop is ground, the canes will be so affected that their juice can no longer be crystalized. This may be obviated, however, by cutting and grinding them before they thaw.

Finish planting canes this month, if the season requires it, covering them to the depth of about three inches, but not too closely together.

Sowing Tobacco Seed.—In the early part of this month, if it has not been done in December, select a spot of ground, prepare the necessary beds and sow your tobacco seed. Make the beds, if possible, on land newly cleared, or at least on land that has been seeded with grass. Break up the ground properly, grub up the small stumps, draw out the roots with a root puller, or carefully remove them by hand. Make the beds from three to four inches high, of a convenient length and from three to three and a half feet in breadth, so as to enable the fingers, at arm's length, to weed out the young plants from both sides of the bed. Before the seed is sown, take some dry trash, and burn upon the beds in order to destroy insects and the seeds of grass, or vile weeds. Take one ounce of tobacco seed, mix it with a quart of dry ashes, so as to separate it as much as possible, and sow it broad-cast in the beds. Then slightly rake the surface, roll or tread it down with your whole weight, in order that the ground may at once closely adhere to the seed, and sprinkle with rain or river water, if not sufficiently supplied by showers. Should the beds become dry from the sun, or blasting winds, watering should constantly be repeated until the young plants are large enough to remove. Keep the surface of the beds in a moist state, well stirred, and the plants clear of weeds.

Kitchen Garden.—Plant artichokes, garlic, asparagus, egg plant (under frames), chervil, northern cabbage, cress, shalots, spinach, lettuce, broad-leaved endive, dwarf beans (end of the month), Windsor beans, lentils, mustard, parsley, radish (round and long), rocket, carrots, tomatoes (under frames), peppers, northern turnips, peas, cauliflower (in beds), sweet potatoes, early corn, Irish potatoes. Transplant early cabbages from hot beds; also onions, either young plants or dry sets.

Fruit Garden, Shrubbery, &c.—Continue to plant cuttings of grapevines, fruit and shade trees, &c.

SOWING OSAGE-ORANGE SEEDS.—Mr. Munn, of Kentucky, recommends us to soak the seeds of this plant in warm water, one or two days, until they swell; or soak them 24 hours when they should be tied up in a bag, and buried in moist earth, examining them every week until sprouted, after which, sow the usual way.

ROUGH NOTES BY THE WAY.—No. 5.

Farm of Mr. Maillard.—On my return to Philadelphia, I accidentally met my excellent young friend, Mr. Adolphus Maillard, who was so polite as to insist upon my accompanying him home to his hospitable residence at Bordentown.

His farm consists of about 600 acres, and was formerly part of the estate of the late Joseph Bonaparte. The mansion, gardens, and park, having been offered and since sold for \$30,000 separately, Mr. M. wisely declined these, thinking that an excellent and venerable old house, nearer the centre of the domain, more convenient for him, near to which is a farm house and outbuildings, quite sufficient for all his present wants.

The soil of this farm is mostly a sandy loam, and when Mr. Maillard came into possession, he found it greatly exhausted by previous years of constant cropping, without a suitable return of manure. He has now made an additional purchase of 40 acres of muck meadow, lying on the margin of the Delaware River. From this he is hauling large quantities of muck to make into compost, and is also liberal in the application of lime, ashes, bone dust, but more especially guano, which has done wonders for his soil thus far. He has also discovered marl on his farm, which he is using liberally. But I must warn my readers not to entertain too extravagant notions, and expect too much at once. Improvements of the soil are necessarily slow; nature will not be forced beyond a certain pitch, and we must leave it for time to put its seal upon them. Considering, however, the short time Mr. Maillard has been at work here, his crops looked remarkably well, and were very abundant. He had thirty-four different kinds of grass and grain growing, several of which were for experiment. Among these I was particularly struck with a superior kind of wheat which he had brought home with him from Italy. After harvesting it, he employed women and children to select the largest and most perfect grown heads, and to shell them by hand; and from the seed of these throw out all the inferior grains. What is left, he intends to sow on clean, well prepared ground, and so follow up the result. His exertions cannot but be crowned with success; for improvement in seed is just as sure to follow such a course, as improvement in stock when breeding from well-selected animals.

Mr. M. has laid the foundation for an excellent stock. He has several very fine pure shorthorns, also Ayrshires of approved milking families. The bulls he is breeding to a choice selection of native dairy cows. This is the true way to make us independent of foreign importations. I am a great advocate for improving the natives—home manufactures is my motto.

I noticed here an excellent roadster stallion; a descendant from the famous Long-Island trotter, Andrew Jackson. I will defy the world to beat the United States for good roadsters; and we ought to be exporting them largely for the improvement of European stock; and might do it if we would go to work right, to bring it about.

The pigs here are very fine, being mostly the beautiful Suffolk and their crosses. Query. Can a pig be called a beauty? I suppose so *for a pig*, the same as a Hotentot *for a Hotentot*.

Since my visit to Mr. Maillard, I notice in a New-Jersey paper, that he was quite successful at the Burlington County Agricultural Show, in October last, where he received several first premiums for the best display of different kinds of animals, grain, &c.; all of which he generously handed over to the society, to be offered again at their next annual show.

In implements, I found Mr. M. equally liberal; for he supplies himself with such as have proved to be the best. As an example of these, he has got up a circular horse power for one or four horses, as desired. With this, he moves a threshing machine, fan mill, circular saw, small grist mill, grindstone, cornsheller, and strawcutter, which greatly saves in the labor of men.

Mr. M. has some other things in progress, of which I should like to speak, were it not for fear of proving tedious to the matter-of-fact readers of the *Agriculturist*. I will therefore finish my observations here for the present, by giving a brief detail of a potato experiment which he made in 1847. When his crop was dug, he found the rot very prevalent. He immediately gathered all that seemed in the slightest degree affected by it, and put them into his steam vat, and thoroughly cooked them. They were then packed down hard in common hogsheads. These he fed to his stock during the winter; and what remained in the spring proved as sweet and good as when first put down. I ate some myself to be convinced of the fact. Had he not resorted to this cheap and simple method of saving them, he is positive all would have been lost. He purchased of his neighbors large quantities in the same diseased state, and saved them with the same success.

SAMUEL ALLEN.

New York, December, 6th, 1848.

AMERICAN INDESTRUCTIBLE MINERAL PAINT.

MR. WILLIAM BLAKE, of Akron, Ohio, discovered a singular metallic substance, about four years since, in a strata of rock, in the township of Sharon, not far from his residence, which, when taken from the mine, had all the appearance of the finest indigo, and no harder than cold tallow, but upon a few days exposure, it became a hard stone or slate.

After a course of experiments, engrossing his attention for two years, he ascertained that, by reducing it to a fine powder, and mixing with linseed oil to the consistency of thick paint, and applying with a brush to wood, iron, tin, zinc, or brick, it became, after a few months' exposure, perfectly hard, and it is said, indestructible.

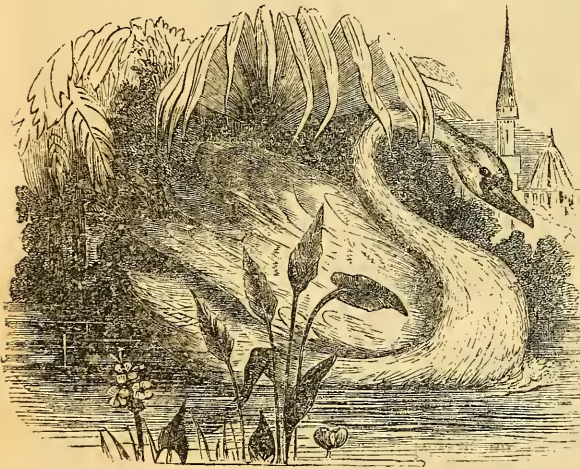
The utility of the article since its discovery, is represented to have been tested in various ways. As a protection against fire it is invaluable; being impervious to air or water it prevents combustion, the fire actually charring the wood, instead of igniting it. At the west it is in large demand for covering roofs of buildings, for decks of steamboats and railroad cars, for bridges and fences, carriage work, fire-proof safes, cement for air-tight stoves, &c., &c. It can be applied to shingled roofs, matched boards, or any of the metals with equal success.

Bearing a very high polish when applied to wooden mantel fronts, centre and pier tables, its appearance is not inferior to the finest marble.

BREEDING AND MANAGEMENT OF SWANS.

Those who wish to make themselves acquainted with the habits and dispositions, as well as the mere figures and descriptions of animals, should know that all living creatures cannot be divided into two distinct ranks of *wild* and *tame*, but that there is a most perplexing intermediate multitude, neither wild nor yet tameable, but usually spoken of as "familiar," or "half-domesticated," a term without meaning—dodging, like "squatters," on the outskirts of human society, but determined never to enlist in the drilled and disciplined ranks, playing the game of "off and on," but always ending with the "off." Such, among many others, are the partridge, rats and mice, and at a still greater distance, it is believed, is the whole genus of swans.

Swans, then, are *feræ naturæ* to all intents and purposes; yet, although capricious birds, wild in their very nature, like most living creatures, they have some attachment to place. The first point, therefore, is to settle them agreeably in their destined home. Old birds are less likely to be contented with a new abode, unless very distant from



THE SWAN.—FIG. 1.

their former one. Cygnets may be procured every autumn; if they have been put up to fat for some time so much the better, as they will the sooner become manageable, and content with a small range. The disadvantage of having cygnets to begin swan-keeping with is, that they are less ornamental till they have attained their perfect plumage, and the proper orange color of the bill, and that they do not breed till their third year. It is not, however, generally known that the male is capable of increasing his kind a year earlier than the female, so that a brood may be obtained from an old hen, and a cock bird in his second year. In selecting a pair, the great thing is to make sure of having two birds of opposite sexes. Two cock birds will not live together, and their mutual aversion would soon show that all was not right; but two hens will—which is the case also with pigeons.

In selecting any water birds whose plumage is alike in both sexes, and which cannot, therefore, be distinguished with certainty, the best rule is to

see them in the water, and take that which swims deepest for the female, and that which floats with greatest buoyancy for the male, remembering that, as a general rule, all creatures of the masculine gender have the largest lungs in proportion to their size. The neck of the cock swan is usually thicker. An experienced eye will, besides, detect a certain feminine gentleness and modesty in the one, and an alacrity and boldness in the other, which is a tolerably safe guide, as well as an appropriate and becoming attribute to the creatures themselves.

Supposing the reader to have obtained two cygnets that are not mere friends, but actually husband and wife, he will recollect that those reserved for fattening are never pinioned, lest it should check their progress, and he will request the operation to be performed before he has them home, in order that they may have the fewest possible disagreeable reminiscences connected with the spot where they are to spend their lives. The amputation of the part of the wing which corresponds to our hand is quite sufficient to prevent the flight of the short-winged species, as far as migration is concerned, disfigures them less than the closer pruning, and still leaves them the means of escape from a dog, allows them now and then, in their gambols, to fancy they are free, and to enjoy a sort of half-run, half-fly, from the lawn into the water. Kindness, comfort, and good feeling must be employed to keep them at home as far as possible; but the loss of the last wing will not be enough to prevent their flight. It is recommended that the female be pinioned at the wrist, the male at the elbow, trusting to their mutual attachment to keep the less-maimed bird from deserting her mate. But however it be done, let it be set about in a workmanlike manner; no chopping—no hacking—no hewing, nor butchering. Many cygnets are annually killed by the clumsy way in which their wing is lopped off. They suffer from the shock to their nervous system.

A skilful operator will feel for the joint, divide the skin, and turn the bone neatly out of the socket. He should be allowed to shed just one drop of blood—no more. We would be as hard upon him as Portia was upon the flesh-cutting Jew.

"This bond doth give thee here no jot of blood;
The words expressly are, a limb of swan;
Take then thy bond, take thou thy limb of swan;
But, in the cutting it, if thou dost shed
One drop of cygnet blood, thy clumminess
Shall brand the name of 'Bungler' on thy back.
Therefore, prepare thee to cut off the limb,
Shed thou no blood; nor cut thou less, nor more
But just the very limb; if thou tak'st more
Or less, than just the limb, thou shalt bewail
The consequence."

If any brook runs into and from the pond where they are to remain, their escape through that channel must be prevented by netting, hurdles, pales, or other fencing, which should be continued some distance inland, lest they should walk away, if they cannot swim away. This precaution will be found particularly necessary if there is any main stream in the immediate neighborhood. A feeding trough

may be fixed for them in the pond, in the part where it is most desirable that they should be accustomed to display themselves. The trough must be fixed in the pond on two firm posts, within arm's length of the shore, raised high enough from the water to prevent ducks from stealing the food contained therein, having a cover which lifts up by hinges, and so forms a lid, to keep out rats and open only in front. Many persons, however, feed their swans by simply throwing the corn, or grain, into shallow water. They will skim the surface for the light grains which float, and then submerge their heads in search of that which has sunk. But it is cruel to locate a pair of swans for the sake of their beauty in a new-made piece of water whose banks and bottom are as barren and bare as the inside of a hand basin. A load or two of water weeds should have been thrown in, the previous spring, to propagate themselves and afford pasture. Swan food exists in proportion to the shallowness and foulness, not to the extent and clearness of the water. A yard of margin is worth a mile of deep stream.

In confined waters, swans require a liberal supply of food in the autumn, when the weeds run short. It should be remembered that at this season they have to supply themselves with a new suit of clothes, as well as to maintain their daily strength. If they have not been taught to eat grain, and have not acquired a notion of grazing, they will perish from starvation. Young birds are apt to be fanciful or stupid, and have not sense enough to come on the bank and eat grass, or pick up the threshed corn, or grain, which may be thrown down to them. Sometimes they may be tempted with a lock of unthreshed barley or oats, thrown, straw and all, into the water, which they will instinctively lay hold of and devour. Cygnets, which have been previously put up to fatten, will give little or no trouble in this respect, besides the advantage of being accustomed to the near approach of their feeder.

ADULTERATION OF FOOD.—No. 7.

Lozenges, Confectionary, &c.—There are few articles in common use more subject to adulteration than lozenges and similar preparations consumed by children. Not only are substances added to them, which are cheaper than the sugar in their composition, but others, also, of a very deleterious character, such as preparations of lead, arsenic, copper, &c., for the purpose of coloring.

The substances usually employed in the falsification, in bulk, are chalk, pipe clay, plaster of Paris, sand, flour, and starch, all of which bodies can readily be detected by the chemist. When taken into the stomach by children, these lozenges, sugar plums, &c., often occasion severe constipation, and other diseases, which, doubtless, every year, is the cause of carrying great numbers to the grave. But, by far the most dangerous adulteration in this species of manufacture is the coloring matter used to impart the beautiful and brilliant hues the articles generally assume. All the substances employed for this purpose, which are derived from the mineral kingdom, are poisonous and attended with danger, excepting the oxides of iron, ferruginous lakes, and prussian blue. Of vegeta-

ble substances, gamboge should be severely proscribed, in consequence of being a drastic cathartic, which, even in minute doses, occasions violent intestinal irritation. Litmus, too, should be equally prohibited, both on account of its being occasionally incorporated with putrefied urine, and being adulterated with common arsenic and the peroxide of mercury.

The lozenges, comfits, &c., which are of a bright orange tinge, are sometimes colored with chromate of lead and minium, or red lead; brilliant yellows with gamboge, Naples yellow, and chromate of lead; greens with prussian blue and vegetable yellow lake of alumina, mixed with sulphate of lime, as well as with Scheele's green, or the arsenate of copper; the blues are chiefly colored with prussian blue, and consequently contain no deleterious compound; the reds are tintured with vegetable lakes of alumina, and chromate of lead with red vegetable lake and red lead. The papers, also, used for wrapping up sugar confectionary, are colored with similar poisonous materials as the comfits themselves, and children will often suck or eat these papers, from which it is evident that the most fatal consequences are liable to occur.

As the most diversified colors can be obtained by the confectioners, from totally harmless materials, it is surprising that they pursue a practice so pernicious to public health. Thus, from the lakes of cochineal and carmine, they can prepare all the reds; the lakes of logwood will afford them a violet; the lakes of dyer's broom, &c., will give the yellow; the lake of Persian berries, with prussian blue, forms a more beautiful green than any mineral can produce; and finally, by mixing these harmless colors, all the intermediate tints and shades can be obtained.

Pure sugar, or candy, taken in moderate quantities, is wholesome and beneficial to health, and may be used without injury to the teeth; but whenever nausea is produced, it will be found that it invariably arises, not from the sugar, but from the vile trash mixed up with it, known under the general name of "sweet meats," or "sugar plums." Should any one doubt this latter fact, an analysis of these articles, taken from any confectioner's shop, readily proves it.

SHEARING OR CLIPPING HORSES.—We have seen specimens of this recently in the city, that would quite astonish the uninitiated. A long-haired, shabby-looking beast, after being a few hours under the hands of the shears, comes out with a close, smooth, shining coat, quite to the taste of the admirers of horse flesh. There are some advantages in this practice irrespective of the looks. The horse does not sweat so easily, and when once wet, he dries more readily, and the tendency to colds is thereby materially lessened.

A GENUINE ALCHEMIST.—The Dey of Algiers, understanding that the Bey of Tunis, who had been dethroned, possessed the art of converting the baser metals into gold, restored him to his throne on condition that he revealed his secret. The Bey sent him, with much pomp and ceremony, a plow!

CUBA AND THE CUBANOS.

WE had occasion to notice in our last number, the enterprise and liberality of the government of Cuba. We are now happy to add the following testimonial of the high character of the planters of that island, from the intelligent American traveller, Mr. McCulloch, of Philadelphia, who has recently visited them. We are so intimately connected with them in commerce, that our interests are in many respects identical. We cannot fail, therefore, to feel a deep interest in all that concerns this intelligent and enterprising neighbor.

"The planters of Cuba, whether we judge them by the progress made in improvements, by the skill exercised in the operations of manufactures, by the judicious management of their estates, or by the information and intelligence they display, must certainly be considered the equals of our own fellow citizens, and that they do not realize far greater profits from their industry, is to be attributed, not to inferiority, but to the tyranny of Spain.

"I should be unjust to the Creole population of Cuba, to the humble montero as well as to the wealthy planter, if I were to say of them that they are our inferiors. They are no mongrel race, like the population of Mexico. The purest blood of ancient Spain flows unmingled in their veins. The ashes of Columbus repose in the cathedral of Havana, and the people of the island are worthy descendants of his followers. I have observed them carefully, and I know them well, for I have been under their roofs and among them long enough to become acquainted with them. They inherit and by nature are endowed with the noblest faculties. In his hut made of the wood, and thatched with the leaves of the royal palm (*palma real*), the poorest montero welcomes and presents you to his family with the manners of a polished gentleman, unconsciously displaying those domestic and social virtues which dignify and exalt human nature, however humble the lot of their possessor. Between the educated and refined society of Cuba, and that of our southern states, an American will perceive no difference but that they speak another language. And on a plantation in Cuba, if he be familiar with southern life in our own country, he will find himself perfectly at home. Indeed, were he not surrounded by tropical plants and scenery, and constantly listening to the sounds of a foreign tongue, he might readily imagine himself to be still in the land of his birth."

COMPOSITION OF BONES.—Nearly two thirds of the weight of recent bones is earthy matter, principally carbonate and phosphate of lime; the other third consists of a peculiar animal substance called *gelatine*, some oil or fat, and a variable quantity of moisture. For all practical purposes, in manuring land, the phosphate of lime may be taken, on an average of 50 per cent., or one half of the fresh bones.

GUANO—IN WHAT ITS VALUE CONSISTS.—Guano is chiefly valuable for the ammonia and phosphate of lime it contains. That from Peru certainly owes its greatest efficacy to its large proportion of ammoniacal salts; but some other kinds, as that from Saldanha Bay, must be considered, in the main, only for its phosphoric acid.

REARING LAMBS.

LIKE all other young stock, lambs ought to be kept steadily growing, without getting too fat. Where a healthy, strong, and young ewe has a good range of pasture, the lamb may acquire so much fat as seriously to interfere with its thrift, when taken away and put upon its winter's food. Experienced flock masters say they have frequently lost lambs from this cause, and that when a ewe has twins, and the milk is divided between the offspring, this loss never occurs. This is an important fact for the practical man.

It is well to have the lambs accustomed to dry forage before they are put up for the winter. If good, sweet hay, dry clover, or oats in the sheaf, or threshed, be thrown out to a few old sheep, surrounded by all the lambs, while the latter are in fine condition, brisk and lively, they will at once begin to nibble at the dry food, and soon will be entirely familiar with and enjoy it. If left, however, till weaned, and they have become pinched by the snows and frosts of approaching winter, and the scarcity and insipidity of autumnal forage, their stomachs are in a weak or diseased condition, they have no appetite for their new dry food, they stay away from the racks, and daily become weaker and more indisposed, and soon have become too far reduced to recover, or if they survive, it is with a constitution permanently impaired.

WIRE FENCES.

I AM glad to see the attention of farmers turned to this subject, as I believe at no distant day wire fence must become the leading kind generally over the Union. It is true that there is a difficulty in fencing against hogs, but even that can be overcome without much trouble as is hereafter suggested.

I have never yet had any made, but intend to make a sample next spring. I have given, the subject, however, a good deal of thought, and made inquiries and figures thereupon. From some small experiments I have made, there can be no doubt but my figures are mainly correct. I shall use No. 11 wire, cedar posts, as they are the most durable, and shall set them six rods apart, making the fence five strands high. The post being set, I should begin by boring an inch hole through each, at eighteen inches from the ground; then another hole eight inches from that, the next ten inches; then twelve inches; then fourteen inches, making the fence five feet, two inches high. After the wires have been drawn through and strained tight, drive plugs into the holes at each side to hold them in their places. Between each post, and one rod apart, drive down a stake, saw into it opposite each wire, perhaps an inch, lay in the wire, and drive in a shingle nail to keep it in its place. It would be less trouble to drive a small spike into the post and wind the wire round it by one turn, rather than to bore the holes; though the expense would even be more.

The wire ought to be prepared in the same manner that it is for bridges, boiled in linseed oil for a quarter of an hour, and then dried, and the same process repeated three times. This anneals and at the same time coats the wire, and saves painting it. If, however, there be but a small quantity to put

up, it would be better to heat the wire, and afterwards paint it. Coal tar would also be an excellent substance for that purpose. Now for the expense.

A strand of No. 11 wire, 80 rods long, weighs 25 lbs.	
80 rods of fence would weigh 125 lbs. at 7 cents,	\$10.75
14 red-cedar posts, 25 cents each,	3.50
85 stakes, 1 cent each,	0.85
Preparing wire and painting,	1.00
Setting posts and stakes,	0.50
Putting up fence, including spikes, or boring posts,	1.00
Contingences,	1.00

Outside cost for 80 rods of wire fence, \$17.60

This would be 22 cents per rod; but the actual cost to the farmer would not be 20 cents.

On most farms, where there is plenty of timber for posts, it would not cost but about 16 cents per rod. But allowing for all contingencies, and that it costs 25 cents per rod, it is then by far the cheapest fence that can be built.

In order to fence against hogs, I would drive down short posts and put on boards about two feet, and put the wires above, but nearer together. I think that no hog that ought to go at large would ever get through. For all other kinds of stock, it would be impenetrable. A neighbor of mine, who is compelled to fence against a whole village of street cows, put but two strands across a stream, where his fence was washed away, and it has proved a perfect protection. I have seen the cows walk up to it, but have never yet known one to attempt to get through, although the temptation between a fresh pasture and the dry streets was very great, I have no doubt.

T. C. PETERS.

Darien, N. Y., November, 1848.

REVIEW OF THE SEPTEMBER NUMBER OF THE AGRICULTURIST.

Potash Necessary as an Ingredient in the Food of Plants, is the title of the first article in this number, from the reading of which the reflection naturally arises, of how much of this indispensable ingredient is wasted in many parts of our land—in the waste of household ashes, clearing of forests, and the neglect of gathering and burning weeds, leaves, &c. But, above all things, is the want of knowledge of the value of such ingredients, or that potash is at all required to enable the farmer to produce a good crop. How small a portion of the cultivators of the western prairies are there, who think of the potash stored up in the soil upon which an annual crop of grass has been burnt for a thousand years! No one in ten of the advocates of burning stubble, ever think that it is the potash given immediately to the surface, that tends to enrich it more than it would be by the slow decay of the whole mass of straw and weeds, when plowed in, or what is much more common, left to rot, or dry up and blow away, or be washed off by the rains. This matter of manuring land with potash, is one that demands more attention.

Social Meeting of Farmers and Gardeners.—This is one of the kind of meetings that should be much

more common. All trades and professions have their meetings to devise ways and means to promote their business. But a meeting of farmers to impart knowledge to each other about their own business, is almost an unknown thing. Farmers are certainly too unsocial for their own good. The organization of farmers' clubs and social meetings, always tend to improve every neighborhood in which they are established. I wish their number might be increased a thousand fold.

Adulteration of Food, No. 3.—I have heretofore given my views upon this subject. If the citizens of New York use adulterated milk, in these latter days, they deserve but little pity. The railroad to Orange county alone is sufficient to supply the city with pure, sweet milk, without any assistance from *Pump, Chalk & Co.* If the consumer will only determine that he will have good milk, I have faith to believe he will find honest dealers enough to supply him. It is well known to dairymen that one cent and a half a quart for milk, will pay more profit than the average price of butter and cheese. But there seems to be a class in the community so thoughtless, or careless, that they are willing to be fed under the name of milk, with the refuse of the filthy still tubs, after it has been run through the intestines of a poor feverish cow, with just life enough left in her to enable nature to separate the coloring matter from her food, and make that wish-a-washy stuff that is drawn from her teats, and which bears no other resemblance to fluid from the same source in a good grass-fed, country-bred, healthy cow, than is found in the fact that it has a whitish, milky look. There is another source of adulteration of milk, that the writer of that article has neglected to speak of. It is to be found in the unaccountable negligence of whole communities, in breeding calves for milking qualities.

American Horses in France.—I am delighted to learn that "there is a tide in the affairs of" horses, as well as men; and that it may yet turn and flow towards Europe, with such a flow as will completely overwhelm that prejudice against everything American, until the people of that country, as well as this, will learn that we can grow horses upon our cheap lands, for less money, and of as good quality as can be done in the "auld countrie." The truth is that the importation of stock has been carried to a ridiculous extreme; and it is time that the tide should turn.

Marking Sheep.—Until something of this kind is adopted, I wish to impress it upon every one who keeps a flock, if not more than half a dozen, that Venetian red is the best thing that I ever saw used to paint-mark sheep. It is, as most all know, a cheap red paint, only a few cents a pound, and one pound will mark a thousand. Take up a pinch of the dry powder, and draw the thumb and finger through the wool upon the particular spot you would mark, loosing the powder at the same time, and it will combine with the oil of the wool, and make a bright-red mark that rains will never wash out, and which will endure from one shearing to another, but does not injure the wool. It is readily cleansed out by the manufacturer.

A Mink Trap.—The one described, for ought I know, may be a very good one, and probably the fish bait on the dried muskrat flesh, a very good

bait, but the boys need not trouble themselves to catch and dry a muskrat before they catch a mink. Muskrats are the natural food of minks, and therefore, old hunters take advantage of the mink's love of musk, and carry a little vial of liquid, strongly scented with it, and a few drops of that upon a piece of flesh attracts them to the trap; which is usually a small steel spring one.

The Pea Fowl.—I do hope that no farmer will be tempted by this very plausible article, to bring a stock of these gay birds upon his farm. Not that I object to seeing or hearing them; but because it will be the means of preventing him from having such a garden of flowers and vegetables, as ought to surround every farm house; and because that peacocks certainly are a nuisance among other poultry.

Liebig's Theory of the Motion of Juices.—I only notice this article to recall the attention of readers to the sentence in which he speaks of the blistering of the skin at great elevations, and accounts for it. Conversing the other day with a man direct from Oregon, he spoke of the fact of emigrants' faces blistering while crossing the Rocky Mountains, a circumstance that I recollect to have read about before, as well as the bleeding of the gums. Instead of attributing this to the right cause, this traveller says that it is the universal opinion that it is owing to the air being charged with saline particles.

Canadian Method of Hunting Wild Bees.—Why is this called the "Canadian method?" It is the American method. But you have not told the whole. At certain seasons of the year, the hunter goes into the woods and burns honeycomb, which will attract bees from a considerable distance. These he feeds with honey, and then watches the course they take for home, which being a "bee line," is easily followed, and the tree, when found, as remarked, seldom fails to reward the hunter for his trouble. I have known upwards of a hundred pounds taken from a single tree. And yet, I never knew a professed bee hunter that provided half the comforts for his family that he might have done by an ordinary degree of industry. Bees are often found in winter when there is snow upon the ground, by going carefully through the woods and looking at the root of every proper looking tree for a "bee sign," which is seen in the form of the yellow excrement and dead bees on the snow after a warm sunny day.

Letters from Abroad, No. 4.—These letters continue to be exceedingly interesting. And if the wines can be kept strictly confined to their proper sphere, to be used for medical purposes, and never as a beverage, I have no objection to their manufacture in this country. But being a somewhat strict son of Temperance, I am opposed to any other use of them; and as an American citizen, I am opposed to their importation, because they can be manufactured upon our own soil by paying a little attention to the cultivation of the grape.

The Best American Bee Flowers.—"Buckwheat and white clover; the former produces the best honey but is less saleable from its dark color." This is an old story; so old, in fact, that it is almost an act of irreverence to dispute it; yet, as I never hesitate to combat an error on account of its age, I shall attack this. In the first place, then,

buckwheat is not the best bee feed, either for quantity or quality. If it makes the best, or even good honey, I am greatly mistaken. Indian corn, while in bloom, is better, but it affords but little wax. The honey is rather thin, but white, and the comb very tender. The only thing in favor of buckwheat is, that it affords flowers and bee feed a long time, and helps to produce a large quantity of honey; but I do not like the flavor. The willow affords the earliest spring feed for bees; that is, it enables them to provide food for the young brood.

Unnatural and Injurious Overfeeding of Breeding Animals.—It is one of the "singular coincidences" of this life that this English writer should have written this article almost in my own language. It is a disgraceful fact, that nine tenths of all the premiums awarded in this country, are awarded to great masses of fat, without much regard to any other quality. Until there is a different and more just system adopted, I shall look upon all premiums for cattle, of little or no benefit towards improving the breed of cows, in their milking qualities.

The Cotton Crop.—Dr. Philips gives an amusing "exposé" of what I have long looked upon as a great humbug. The idea that a commission merchant in New Orleans, should issue his "circular" in advance of all possibility of knowing what the cotton crop will be, to tell the world what they are to depend upon, is indeed laughable. Will the doctor give us more of the particulars about his hogs dying from eating the cow pea? Are you fully satisfied upon that point? I have known so many hogs fed upon these, without injury, that it is difficult to reconcile the fact with former experience. I think that if you are able to "kill 800 pounds of pork per hand" this year, that there will be no danger of your negroes starving. By the by, Doctor, did you ever see a starved negro in your county? We often hear of them up north, but I never saw one at the south. I commend you, Doctor, to stick to the word "milk" for *milch*. I assure you that I will always be with you there.

Rough Notes by the Way, No. 1.—This is an article by the father of the editors of the *Agriculturist*, who writes entirely too seldom; because he is just such a character of a writer, as friend Reeve is of a nurseryman. When he writes, he intends to mean what he writes. I like this "No. 1" of the "Rough Notes." The statistics of Salem county ought to put some other counties to the blush. Is it possible that this county raises a surplus of 600,000 pounds of pork, and 4,450 calves? And only think of every man, woman, and child in the county selling a market basket! I am also surprised at the value of the furs, \$7,500. What are they? [The fur of foxes, bears, wild cats, minks, muskrats, &c., &c.] Again, a thousand dollars, worth of oil of sassafras; and fifty tons of sumac, at \$35 a ton! Is that the common kind of sumac, and is it cultivated, or does it grow wild? [The common kind, and it grows wild.] This is an interesting feature of an industrious population. I should like to visit them. [Then why not do it? It is only a day's journey, you know, from your own comfortable domicile.]

Cooked Food for Fattening Cattle.—I am well satisfied that cooking potatoes for fattening cattle

will not pay cost. On the contrary, for hogs, they are of but little value when fed raw. I should like to see the experiment carefully tried, to ascertain the relative value between potatoes and Indian corn, for fattening both cattle and swine.

Rural Pastimes by Social Labor, No. 4.—The reading of this article has carried me back to the days of my childhood, to the joyful husking frolics of New England. It grieves me to think that these old-fashioned rural pastimes are being superseded by a refined state of society, that certainly gives no increase to the happiness of the rural population. Rural population!!! did I say? Why, the phrase is almost obsolete. Excess of refinement in these latter days, forbids that a bevy of country girls should engage in a most gleeesome party of huskers, and spend an evening out in the orchard, or barn, with old men and boys, red ears and speckled ones, jokes, songs, and stories, all to wind up with a wholesome, hearty supper, and, perhaps, a most exhilarating dance. But perhaps the most jovial and happy husking frolics in the world, as your correspondent alludes to, are among the negroes of the southern states. These, and the Christmas merry makings, are bright spots in a darkie's life. And here, with minds full of reminiscences of the pleasures of rural life, let us be impressed, while buoyed up with the pleasing reflection that we are administering to the stock of information or benefit of that class of our fellow laborers, whom we desire to see elevated above the mere drudging day laborer, or cringing serf of some exacting landlord. And I am well assured that such a class of population can never exist in this country, if our rural laborers will continue in the well-begun practice of supporting and reading works like the *Agriculturist*, and numerous others, that have been published within a few years; for they tend to enlighten the mind so that it will be the surest guarantee against the evils of "land monopoly," and give us an ever increasing population of cultivators of a soil they are proud to call their own.

REVIEWER.

HINTS ON THE MODE OF ENCLOSING LOTS IN RURAL CEMETERIES.

For an evergreen hedge, as an enclosure to a burial lot, in a cemetery, I think, all things considered, the arbor vitae (*Thuja occidentalis*), is the most appropriate. Planted, and treated as a hedge, that is, shearing and clipping it annually (and no plant will better bear the shears), it may be kept down to the height of three or four feet. Or, if it is left untrimmed, it will form a dense screen, or enclosure, from ten to fifteen feet in height. It would always be a harmonious and agreeable mode of marking the limits of proprietorship in any of our cemeteries, and would be much more in accordance with the feeling of seclusion, which one naturally associates with a resting place of the dead.

The evergreen *Variegated-leaved Eucalyptus* would, also, make an excellent low hedge for an enclosure of this kind, perfectly hardy, and very pretty withal. So would the tree box (*Buxus sempervirens arborescens*), but more dense than the eucalyptus, and it would bear equally well the shears.

The *Mahonia equifolia* is a desirable shrub for an evergreen hedge, being hardy and growing to a height of three or four feet, displaying its beautiful

yellow flowers, which form a pleasing contrast with its rich, deep-green leaves.

The *Double-leaved Allieas*, intermingled with each other, would likewise answer an admirable purpose, and perhaps stands unequalled by no deciduous-leaved plant, unless it be the purging buckthorn (*Rhamnus catharticus*). The latter makes a most perfect hedge, if properly trimmed, by the time it acquires a height of three or four feet.

Among the trees of a larger growth, suitable for ornamenting burial lots, the hemlock spruce (*Abies canadensis*), a native of our forests, is most beautiful in its character, and is much to be admired for the deep color of its finely-cut and glossy leaves, which render it much more graceful in its appearance than most other evergreens.

The *Deodar Cedar*, however, without exception, is the most magnificent evergreen that has ever been introduced. It is a native of the Himalayan Mountains, in Asia, and has thus far proved perfectly hardy, as has been fairly tested in several nurseries at Flushing, and elsewhere, for three or four winters past. Its foliage, in appearance, in the early part of summer, is very much like that of the larch; and its beautiful weeping habit excites the admiration of all who become familiar with it.

Another beautiful ornament for a cemetery lot, is the *Swedish Juniper*, an evergreen attaining a height of ten or twelve feet, and much more rapid in its growth, and far more graceful than the Irish yew. Its feathery light foliage and pendant branches place it far above any other evergreen of an equal-sized stem.

The common yew (*Taxus baccata*), although long associated with burial grounds, or churchyards, in Europe, and attains an advanced age and a large size, is less hardy than the Irish, and is not adapted to the climate of the northern parts of the United States. The association, perhaps, might be kept up by the American trailing yew (*Taxus canadensis*), which is perfectly hardy and will grow on almost every variety of soil.

There are many other desirable varieties of trees and shrubs, which would be appropriate for the object above, but the present will suffice.

SEMPERVIRENS.

Flushing, L. I., November 12th, 1848.

ANOTHER FACT IN BOOK FARMING.—A correspondent writes us from Winchester, Virginia, that he has been a subscriber to our journal for five or six years, and that he would like to see it more extensively circulated in that place. He says that he has shown his neighbors, the last season, how to raise 83 bushels of shelled corn to the acre without the application of any manure, whereas 35 bushels in his "diggings," is considered a good yield. He attributes his success to the knowledge he obtained from the *American Agriculturist*.

PHOSPHORIC ACID ESSENTIAL TO THE GROWTH OF ALL NUTRITIVE PLANTS.—In all the plants, or parts of plants, which are of any great nutritive value, phosphate of lime, or some other compound of phosphoric acid, is always to be found in a considerable quantity, whilst the proportion in which it occurs for the same plant, is so uniform as to preclude all question that it is essential to their very existence.

AGRICULTURAL TOUR SOUTH AND WEST.
NO. 1.

*To the Readers of the American Agriculturist:—*I am again out upon a tour of observation, directing my steps towards a clime more congenial to my health, than is that of my northern residence. And I propose to note down such things by the way, as will be most likely to be interesting and useful to you.

Being charged by friend Allen to "write short, practical articles," I shall be precluded from giving as much of the descriptive character of the land I shall travel over, as I would like to, and as I believe would be pleasing to you. I shall, therefore, make an abrupt commencement with a little account of my visit at Terre Haute—an old French name that means *high land*. It is situated on a most beautiful prairie, some five miles wide and fifteen long, that lies high above all floods, along the bank of the Wabash, which is only navigable in high water; and the place being 120 miles from the Ohio, it suffers the evil of being an inland town. The canal to Lake Erie will, however, open in the spring, and in a few years more, to the Ohio. The rapids of the Wabash are also being improved, and a railroad to Indianapolis, and thence to Bellfontaine, in Ohio, is now in progress.

It is to be hoped when these channels are opened so as to carry off the surplus produce, that the great staple here, Indian corn, will be worth more than twelve to fifteen cents per bushel, the present price; and that the farmers will not wear quite so much the appearance of "hog and hominy," as many of them now do. Yet there are some here who take a pride in cultivating and beautifying the earth. Among these I must mention three of nature's noblemen, James Farrington, S. B. Gookins, and Wm. F. Krumbhaar.

Mr. F. has a most beautiful place just on the south edge of the town, and one of the best houses I am acquainted with. Best, because so well built, and so exceedingly neat, and plainly finished. I need only say that there is a wife and daughter within, who are "all right," to satisfy my readers that it is the dwelling place of such comfort and happiness as I wish every cultivator of the American soil could enjoy.

Mr. F. and his partners have one of the most convenient pork-slaughtering and packing establishments I have ever visited. If I could take up the room necessary to describe it, I doubt not it would be interesting. The head, feet, bones, and entrails are all strained to save every ounce of fat. The offal of the strainer and blood, although such good manure, is never saved. The hair, during the first year or two has been sold to go east, for about seven cents a hog. One curious circumstance occurred last spring in connection with this. The hair had been spread out to bleach on a piece of common grass. After its removal, in the spring, the grass started very fresh, and cows fed upon it, and took up so much of the scattered hair, that several were killed by the hair balls formed in the stomach. Some were found to have two or three dozen balls in a stomach, and some were very large. It became necessary for the neighbors to have the ground plowed to save the lives of cattle running upon the common. It would have had a more

happy result, if it had been the cause of forever preventing cattle from being free commoners of this beautiful town.

Mr. F.'s establishment is capable of killing and packing about 500 head of hogs a day; and there are four others in this place, besides two steam trying lard houses. Pork is now worth here about two and a half cents per lb. The great mass of hogs appear to belong to that breed which must "root, hog, or die," and are well able to do it. Even those that are fed corn, have it well mixed with mud—the fattening season, being the rainy season.

The best lot of hogs I saw about Terre Haute, I found on the farm of Mr. Krumbhaar. They were a mixture of Berkshire, Byfield, and Grazier varieties. And as marking a degree of civilization, he did not throw the corn in the mud. On my visit to Mr. F., I was accompanied by Judge Law, of Vincennes, one of the pioneers of this valley. Had I room to give his reminiscences, as related during the two days spent with him, it would make an interesting paper.

We found on Mr. K.'s centre table, in the parlor, one of the most fitting displays of such a table, in a country gentleman's house. This was twenty-eight varieties of apples. Mr. K. feels, as well he may, quite proud of his success in growing fine apples. In fact, though, this whole region is full of apples. Mr. Farrington has nearly as great a variety, besides a good assortment of pears and peaches, and other fruits.

At Mr. K.'s I ate chestnuts grown from the seed in about ten years. Chestnuts must never be allowed to get dry, to insure their growth.

Mr. K. and Mr. F. have a fine start of evergreens. They were taken up in the spring with but little dirt to the roots, and boated down the river sixty or seventy miles; and by such careless handling, more than half died. The soil around here is a sandy loam. The timber mostly oak, except in the river bottom. Mr. K. has some very good Durham cows, and although his wife was from a Louisiana plantation, she has become an excellent butter maker.

Mr. Gookins, although a lawyer, has a fine taste for cultivation. He is just beginning a place a mile south of town, where I found some of the handsomest three-year-old apple trees, that I ever saw. Although the ground is a very soft loam, he told me that he had large holes dug, and then fine, rotten manure mixed with the soil, and the hole half filled; and then with his own hands he carefully straightened all the roots of the young trees, and pressed the dirt around them, so that they seemed to feel no check in growth in their removal from the nursery. His prospect for a crop of apples next year, is now good. So much for care in setting out trees.

Mr. G. has tried planting corn and potatoes in alternate rows, and thinks it an excellent plan.

One of the most favorite apples hereabouts, is the *belle fleur*. They grow large, and of excellent flavor. They are unlike those of the east in one particular, as I never saw one here with loose, or rattling seeds. The *gloria mundi* has been grown here of twenty-six ounces weight. Apples throughout all the west, are most abundant this year.

Hundreds, aye, thousands of bushels will lie and rot unheeded, here in the Wabash Valley. Many hundreds of wagon loads are hauled near two hundred miles to Chicago. If nice, they will sell well, but common ones are no longer worth hauling.

Mr. Gookins told me of an orchard which was set eight years ago, in the ordinary, careless way, that is not now near so good bearing as his.

In 1818, Terre Haute was laid out a few miles from the "frontier post," Fort Harrison. All of northern Indiana, Illinois, and Iowa and Wisconsin, was then a vast, untrodden wilderness. Look at it now. See what a change in thirty years. A region larger, and far richer than some European empires, full of civilized life; and although not one tenth cultivated, talking about furnishing the world with human food.

Nothing is now so much wanted as facilities of transportation. No eastern reader, not even around Buffalo, can form an idea what wretched bad roads the dwellers upon this rich soil have to travel over, such a time as this fall, for instance, has been. It is worth more than produce brings, to haul it fifty miles to market. And every effort to make good roads out of the soil alone, has proved an entire failure. The national road is an example in point. For, after an expenditure of more than \$30,000 a mile, the road is now what a decent Yankee grand jury would indict as *impassable*.

There is a new bridge over the Wabash, and a very muddy road west, though not near so bad as the one I came over from Indianapolis. The part of Illinois lying along the national road, between the Wabash and Kaskaskia River, at Vandalia, is, perhaps, the poorest of any part of the state. At any rate, the people and cultivation bear no comparison with the northern counties. Not but what there is sufficient fertility in the soil, although the prairie land is very flat, and apparently wet and cold; but there is no show of "go-ahead-ative-ness." There is not a good-looking, well-cultivated farm in the whole hundred miles. And I saw nothing that looked like a good school house. But I did see a great many whiskey shops. I am sorry to write against any country, but this is a region that I would not settle in myself, if in search of a new home. Others may if they like it.

Vandalia, once the capital of the state, now wears the gloomy weeds of the "deserted village." The Kaskaskia, which runs at the foot of the hill on which the town is crumbling to decay, is the only permanent mill stream I have seen since I left the Wabash. Out of this in flood time, go flat boats, 300 miles by water to the Mississippi, and this is the only way of getting off produce that will not bear hauling sixty odd miles to St. Louis.

The country between Vandalia and St. Louis, is far better than that eastward. Yet here is a great want of improvement. In Bond and Madison counties, there are some good orchards, and a few good-looking farms. But the traveller is surprised to see within twenty or thirty miles of St. Louis, vast tracts of rich, rolling, healthy prairie, lying uncultivated, and even unbought of government. Even the far-famed American bottom, opposite St. Louis, is not one half of it in the very rough state of improvement that the other half is.

There is a very great want of water mills in all this part of the state. Page's patent circular saw mills, are getting considerably into use, and are much approved. Most of the grain for family use is ground with horse mills. I saw two windmills, and was told that they did pretty well.

In the interior counties of the state, very little wheat is grown; as the inhabitants mostly use corn, and wheat will hardly pay transportation. If it were not for the fact that farmers who haul produce to market, live in the cheapest manner on the road, their loads would often be insufficient to pay expenses. What would a New-England farmer think of hauling produce 200 miles to market; and during the whole trip sleep in his wagon and eat his cheerless meals by his camp fire, along the roadside? Such is the condition of things in portions of the great west.

Although this is not the case upon the fertile lands opposite St. Louis, yet there are times when to get a load of wheat only a dozen miles along what the inhabitants are pleased to call "the big road," would be such an undertaking as no load of wheat would be sufficient to pay me for. I don't know as the American bottom ever becomes *absolutely impassable*; but if it does not, it is because that no state of roads can prevent western people from passing them. It is probably impossible for any eastern man to conceive anything half so bad.

In my journey across the state of Illinois, I did not see a herd of good cattle, notwithstanding it is such an excellent grazing region. The cattle are all of the scrub breed, and small at that. On the Kaskaskia, the milk sickness prevails. It is a curious fact that beeves affected by this complaint, cannot be driven to market. I saw some upon the road that had given out. Cattle slightly affected often recover. Care should be taken to keep them from salt, as that aggravates and often kills.

It is a common practice to run a beeve, before butchering, to prove it free from this disease, as fatal effects follow from eating beef badly affected with this strange poison, as well as eating milk or butter from cows so affected.

I saw very few sheep along the road, and all of them of the common kind, yet looking remarkably well. There is one difficulty in growing wool, in the great quantity of burrs and "stick tights;" but yet these are not insuperable, and it is wondrous that no wool of any account is grown in this part of the state for exportation. It is an article that will bear hauling.

Corn and hogs, hogs and corn, are the almost universal rotation. And yet in the whole distance (160 miles), I saw but one good lot—that is, of good, improved breeds. I saw droves going to St. Louis, for pork, nearly 100 miles distance, which as a matter of course could only be in good working order, averaging, perhaps, 175 lbs., and some of them showing tusches three or four inches long. Bah! What pork!

In that whole distance, I saw but one threshing machine. How curiously this contrasts with a trip through the northern counties, where a traveller will often see twenty in a single day's ride.

At St. Louis, I had intended to make some acquaintance with those who should feel an interest

in agricultural improvement; but I soon found that I had fallen upon the wrong time.

I found the news of the presidential election that had taken place the day before, in New York, and other eastern states, a thousand miles away, here in every man's mouth, and so engrossing all attention, that it would be an idle waste of time to offer to talk upon any other subject. Ah, me! How can the minds of a people be brought to think upon the importance of judicious cultivation of the earth, who never think or read of any other subject than party politics? The manufacturer of plows, to them is a far less important person than the manufacturer of political opinion.

Speaking of plows. I saw at St. Louis, one of those great, unwieldy, iron, Scotch plows, just imported for the use of some prairie farmer, at a cost probably sufficient to have kept him in a neat, light article, suited to his wants, a life time; while this, after proving its total unfitness for this soil, will go, as many others have done, to the smith's shop for old iron. * * * * * An unwelcome shake of ague, here shakes off the balance of this article.

SOLON ROBINSON.

On the Mississippi River, Nov. 14th, 1848.

OUR readers will see by the above, that their old friend and bright exemplar, in the great work of agricultural improvement, has at length taken up his march for the south, with the intention of passing the present winter there. He promises monthly reports of his seeings and doings in that luxuriant and hospitable region, which we have no doubt will be found highly entertaining and instructive to the readers of the *Agriculturist*. Mr. Robinson will act as agent in his travels in soliciting subscriptions for our periodical, as well as obtaining orders for the agricultural warehouse of A. B. Allen & Co., of New York, and Stephen Franklin, of New Orleans. We beg to commend him and his objects to our southern friends, and hope that his travels among them will prove mutually serviceable and agreeable. Any one wishing to address Mr. Robinson previous to the first of next March, can do so, to the care of Mr. Stephen Franklin, cor. of Magazine and Poydras sts., New Orleans, who will promptly forward all communications to him.

PLOWING WITH ELEPHANTS IN INDIA.

HUNDREDS of active young elephants can be procured at the straits of Malacca at from \$50 to \$100 each; admirably suited for work of various kinds, but more especially for plowing. One of these animals will closely plow a full acre of land in a day with the greatest ease to himself; and only requires to be attended by his keeper in addition to the plowman.

Any one visiting Singapore may see a small elephant, named "Rajah," working daily on the estate of J. Balestier, Esq., American Consul; and, although the animal is only five years and a half old, he will plow his acre of land a day with ease. One man holds the plow, and another (the keeper), walks beside the animal and directs him in his duty. The docile little creature obeys every word that is said to him, and will plow all day between the cane rows without plucking a single cane.—*Wray*.

VENTILATE YOUR STABLES.

AND we mean by this, not only where horses and cattle, but where sheep, pigs, and poultry are confined. This is best done by placing a ventilator at the top of the building to carry off the impure air. If this cannot be done, then let in fresh air from the top of a door or window, or take off an upper board. Animals are much less likely to take cold or suffer when the fresh air comes in from the top of the place where they are kept.

Recollect that pure air is composed of 79 parts of nitrogen, mixed with 21 parts of oxygen, and an indefinitely small quantity of carbonic acid; that this air is constantly losing its oxygen in the process of breathing, and carbonic acid is thrown out in its place. An undue quantity of carbonic acid in the atmosphere displaces a proportionate quantity of oxygen, and thereby diminishes the healthful properties of the air. This disproportion, if carried to excess, will destroy its life-sustaining principles, and produce death, as effectually as in burning charcoal in a close room. Hence, the vital necessity of purifying the air by constant ventilation.

AGRICULTURAL CAPABILITIES OF FLORIDA.

THIS state differs in many respects, from any within the American Union. Situated at the extreme southern point of our national domain, and surrounded on three sides by the Atlantic and the salt waters of the gulf, it enjoys a climate peculiar to itself. Here several of the tropical fruits, the orange, the olive, the sugar cane, and the vine, flourish in unstinted prodigality. Melons, the sweet potatoe, the yam, and arrow root luxuriate in this fruitful soil and genial clime throughout a large portion of the year. Here, too, the sugar cane attains a maturity and richness no where equalled in the United States.

There is a body of rich, alluvial land lying on this and the contiguous waters, a part of which, at least, is underlaid with marl, that produces the cane in great luxuriance and full maturity. It here tassels and flowers, and ripens almost to the top, and is scarcely ever touched by frost. The planter may here busy himself with other matters, till his crop is fully ripe, before commencing to cut and grind; and when ready for the mill, he may jog along leisurely, relying with almost entire security, that frost will not curtail him of half, a fourth, or any part of his crop. This is a great and decided advantage, which planters here enjoy over their neighbors of Louisiana; and will enable them, in a measure, to make a comparatively secure business here, of what is not unfrequently a very hazardous one there. More than three hogsheads per acre, have been made some seasons, where one had not been saved on the Mississippi. The cane starts earlier in the season, than elsewhere, grows more rapidly and uniform, and is seldom checked by frost, or severe weather. These advantages, and the further ones, of prolonged growth and security against loss by freezing, give an important, indeed, a pre-eminent advantage to the comparatively limited sugar region of Florida. The cultivation of this crop has but recently commenced, but its success already, will soon secure the full improvement of so much of the adjoining territory, as is suited to it.

Besides the crops hitherto receiving attention, there are many which might be introduced with decided advantage. Among these may be named the indigo, the tea plant, and the Má, or Chinese hemp.

I find here many among the planters possessing the right kind of spirit and character, to insure the fullest success in whatever they may undertake. They are men, equally ready for planting a cane, or cotton field, a catamount hunt, administering a bolus, or dissecting knife to a patient, take up the forensic cudgels at the bar, or draw a crowd of willing listeners at a barbecue, or stump speech, where a political adversary is to be slain. You must know, about one half the leading characters of the south are M. D.'s, and the other half L. D.'s—not lazy dogs, but driving lawyers, most of whom hold some *domestic* military rank, ranging from Major to General. What they have ever found to command, in this land of extremes, in the way of rank and file, it is impossible to discover, where a small part of the population is somebody, and all the remainder nobody. Such is the plethora of military dignities here, that at a large convivial meeting, where the last orator in closing, called on the *General* for a toast, every mother's son of the audience, rose at once on his feet to respond to the summons in right of his title. But maugre the stern character of their military cognomens, they are as mild and placable as a May morning, and provided you come to them in the gentle garb of peace, you are sure of good cheer, and a hearty welcome to all the sweet charities of southern hospitality.

Mr. Westcott, the present senator from Florida, has recently brought together the leading projects and means for draining the swamps of that peninsula. Millions of acres that are now covered with water throughout the year, the Everglades of Florida, and the adjoining swamps, are easily susceptible of drainage, and capable of contributing their unsurpassed fertility to the production of numerous tropical, and other desirable crops and fruits. These now lie in a basin, only separated from the ocean waters (which are sufficiently below their level to insure a thorough drainage), by a narrow rim of earth and limestone. Cut this at proper intervals, with sufficiently wide channels, and another large territory would be added to our Union. Fish, alligators, turtles, terrapins, and bull frogs enough might be caught in the escape of the waters, to supply "swate Ireland" against a five years' famine, to say nothing of a part of the adjoining coast of France. If we have no more *destiny*, nor *civilizations* to accomplish soon, in the way of teaching Mexico or the Camanches propriety and Christianity, at the *point of the bayonet*, it is to be hoped some of our large revenue may be devoted to this object.

PATAPSCO.

TO DESTROY ANT HILLS.—Cut them up entirely, both above and below ground, and haul them into a heap to form a compost by mixing them with unslacked lime, which may again be returned to the pasture or field in the form of manure.

A BRIGHT plowshare is the cheapest commodity ever used by a farmer.—*Cobbett.*

FARMS OF MESSRS. WADSWORTH AND AYRAULT.

I AM induced to make a few remarks on a recent visit to Geneseo and its neighborhood. It certainly is a very beautiful country, and deserves all that has been said in its favor. I was much gratified with a ride round the extensive farm of Mr. James Wadsworth, containing about three thousand acres in one body, who pointed out to me the quality of land in each lot. His lower pasture reminded me of the Aylesbury Flats, in Buckinghamshire, England, considered to be the richest grazing land in the world. The farm of the late Mr. Westcar has grazed an ox to the acre, on an average, all through his career; and he took more prizes at the Smithfield show, than any other grazier. He purchased none but the first quality of Herefords, and obtained higher prices than any other man in England. He gave a public challenge in 1825, at the Smithfield dinner, "that he would go to the next October fair, at Hereford, and purchase one hundred oxen of the Hereford breed, which he would feed and show against all the breeds in England, for one hundred guineas per head, or two thousand guineas," which offer no one dare accept. This was done to show the rich men who then possessed the short horns, that he was ready to support the Herefords with his purse. He then told the company that during his experience as a grazier, he had fed and sold twenty Hereford oxen to the butcher, at an average of one hundred guineas each, and he would defy all the breeders of short-horns to say they had done the like.

Had the *white faces* (Herefords), been distributed about this farm of Mr. Wadsworth, I could have almost fancied myself in the large meadow on Mr. Westcar's farm, at Crestlow. It is my impression that the lower pasture on the river, will graze an ox of the first quality to the acre. I believe the superiority of that grass is derived from constant feeding, while the other is generally mown; but fed out on the land it is grown upon, from a variety of small barns distributed about the lots, and under his moveable sheep sheds. The only loss in these two different modes of culture is, the grass is left to grow to seed, and impoverishes the roots, while in grazing, they strengthen and thicken, mat together, and shelter the surface from the scorching sun; by that means they become richer, as the grass grows older, and finer, and if not so long, will carry more stock than thinner, longer, coarser grass; and cattle eat it with more avidity. I observed the orchard grass on these meadows grows very luxuriantly, and I prefer it to Timothy; it produces good aftermath, or excellent feed for cattle or sheep. These beautiful fields are covered with clumps of black walnuts, spreading their branches round; the butternuts follow their good example, with clusters of nuts displaying their productiveness and beauty. Here and there peep from amid the clusters, the beautiful-shaped sugar maple, with its dark, green foliage, and thick, bushy branches. The promising young oaks, also twined their branches there, and all seemed linked in good fellowship to weather the storms together, and produce shady nooks by the side of the circuitous river, for the flocks and herds to repose in comfort. Some old oaks stand alone of extraordinary dimen-

sions; and although the separation made them look forlorn, their splendor adorned the lovely scenery. The hickory, too, with its luxuriant growth has kept its rank and station, its brilliant green and expanded wide leaves showed plainly there was something beneath the surface to support them, in competition against their original rival standards. There is nothing artificial, save one small clump of locusts; while these, in other soils would have dwindled, or have been bored to death, still live and flourish luxuriantly. There is no appearance of aristocracy amongst them, although their verdure and foliage varies in color and richness, their originality keeps each family on equality. Their strength of body gives each an attractive appearance, and their whole attire is gay, commanding, and beautifully picturesque. Their nature triumphs in all its glory; neither skill, science, nor fashion's pride, could paint a more pleasing picture.

A view of this magnificent scenery and the surrounding hills, could be taken from the beautiful lawn in front of Miss Wadsworth's mansion, commanding a very extensive landscape. It cannot be surpassed. It is equal and very similar to that of Bushey Park, and its neighborhood, from Richmond Terrace, near London, and it is there supposed that none can equal it.

The view from Mr. W.'s is not so extensive. Although more confined, it is very beautiful. Rustic bridges and winding paths through the wilderness near the mansion, are quite rural and romantic; sufficiently so as to induce all wealthy citizens to follow his laudable example, if they knew what constituted true happiness. The upland of Mr. W.'s farm is not so productive as the flats, still it is an excellent soil, and the course he pursues, keeping a large number of sheep, feeding two years and plowing two, keeps the land in a good state of cultivation.

Farm of Mr. Ayrault.—I was very much pleased while viewing two small farms belonging to Mr. Allen Ayrault. The produce on sixty acres, looked exceedingly promising. The wheat looked like good quality, and good yield; the corn of luxuriant growth, and a crop of broadcast that I should say would cut from seven to eight tons per acre in September. All crops seemed to be uniform, free from weeds and refuse. Every part of manure carefully preserved in mines, until the crops require it. The most rigid neatness was observed about his barnyard, an excellent sign of a good farmer. However, his crops, horses, cattle, sheep, and pigs are in uniformity, of superior quality.

There are two small cottages built by this gentleman, that have a very pretty and neat appearance. They are neither *Gothic*, *Grecian*, nor *Italian*, but entirely constructed according to his own taste; therefore, I shall call them *American*. They are decidedly convenient and economical. The first was built by contract, including all materials and cellar, for \$275. When completed, the lines of the lot not being at right angles, and some other circumstances, its appearance was naked. He then, to remedy it, annexed a small woodhouse, and carriage house, at an expense, including everything, of \$125 more, making all the buildings as they now appear, to cost only the moderate sum of \$400. The other house, at his small farm, is larger, and so constructed as to accommodate and be good

tenements for two small families; but this house was not altogether new. The old house is on the same ground, at an elevation of two feet above the present one, with its external design as bad as could be, and the covering all deranged. Two years ago, Mr. A. had the covering and internal work all cleared away, the cellar sunk two feet, the frame turned quite around, and let down thus much. The woodhouse, &c., all done by contract, including materials, at \$500. Some extras he added afterwards, made the total expense \$535. The workmen assured Mr. A. that they would prefer building entirely new at the same price.

If the owners of land generally would copy such style on as large or small a scale as they choose, instead of such ill-shaped, unsightly, and rude attempts at architecture, what a different appearance the country would have. It is a pity that more rich men do not display some of their own taste for the benefit of their country.

I was very much surprised to see much of the land from Attica to Geneseo exceeding impoverished. I heard from a practical farmer, that his wheat crop, sixty acres, would not average over twelve bushels per acre, and that was about the general run of the farmers' crops. There certainly must be some very bad management with such land.

This farmer had three acres near his house; between sixty and seventy sheep had been foddered there the whole of the winter. It was pastured the following summer, the sod turned over in August and first week in September, then sowed on the stretch furrow. This crop he acknowledged to be full forty bushels per acre. A friend of mine asked him the reason of his failure in the remainder of his crops. He said the weevil, or some other excuse; but this was not the case, it was constant cropping and impoverishing, which is far too prevalent in this country. It is too bad that such excellent wheat land should be so abused. My idea of the management of such soil should be this: Sow clover, mow one year for sheep in winter, graze it with sheep two years, plow it once the latter end of August, sow the wheat the first rain in September; put on your manure in the winter in the frost or snow on the top; you cannot keep it above too much in my opinion (more of this in another article). Sow barley or oats the following spring after the wheat is off, and lay it down for three years; again pursuing the same course as before. By this system your land would not become sterile so quickly. It is impossible to keep land in condition without sheep and cattle.

WM. H. SOTHAM.

Black Rock, August 25th, 1848.

KEEP YOUR STABLES WARM.—In a brief article, p. 20, of this number, we speak of the necessity of proper ventilation of stables. This can be easily done, and yet keep them sufficiently warm for the stock. Due warmth is essential to the growth and fattening of all animals, and the production of wool in sheep. No farmer can expect much of either during the winter months, if he let his stock be out and exposed to the weather, or if his stables are not properly boarded up, the windows set in, and the doors hung. Next to plenty of good food, water, and air, is good shelter.

KEEP YOUR STABLES CLEAN.

As our stock all stand on plank floors, early in the morning we first take up that part of the litter which is not much soiled, with a fork, and place it in the back part of the stalls, to dry during the day. We then clean out the manure, and put it on the dung heap. If litter be plenty, and it is an object to make as much manure as possible, then we should let all the litter go with the manure, and add plenty of fresh every night for the stock to lie on. And while on this subject, we wish to observe that if the litter be straw or coarse hay, it ought to pass through a straw cutter before using it. This makes it much easier to fork the manure in the heap, as it is not then bound together with long straws. After removing the manure, we give the stables a slight sprinkling of plaster of Paris, or charcoal dust. Either of these substances absorb all unpleasant effluvia, sweetens the atmosphere, and in the course of the season, adds considerably to the value of the manure heap.

Many farmers let their stock stand on the ground. If the soil be dry, there is no objection to this. If not cleaned out till spring, the manure should be spread evenly over the surface of the stable, every morning, a coating of plaster or charcoal dust then put upon it, and fresh litter added before night. Each animal will thus make a larger quantity of valuable manure during the season. One great advantage follows this system, and that is, the salts are not exposed to be washed out of the manure by rain, nor volatilized by the sun, as when exposed to the open air in the barnyard and other places.

GUANO.

THE use of this valuable fertilizer is rapidly extending throughout the Atlantic coast of the United States. The fertility and remoteness of western lands, will, for a long time, preclude its application among the farmers of that region; but the facility and economy of its transportation to those of the east, and the greater value of their agricultural products, will justify its use wherever there is a deficiency of other manures.

As an evidence of the great value of this fertilizer, we could adduce innumerable examples, but content ourselves with the mention of two.

A farmer in Delaware purchased a lot of worn-out land, and applied a quantity of guano upon it; and from the proceeds of the first crop, he paid for the land, the guano, the seed, and the expense of cultivation. This, surely, was using guano to some advantage.

Henry Nicoll, Esq., of this city, recently gave us the following statement:—The experiment was made on his farm, on Long Island, upon an eight-acre lot of medium quality, sandy loam, that had lain in meadow and pasture for several years. It was plowed up in the spring of 1846, manured in the hill, and planted with corn, which yielded an ordinary crop of, say, thirty bushels shelled grain per acre. The following spring, it was put in oats, without manure, and gave twenty-five or thirty bushels per acre.

After taking off the crop of oats, three acres of an average quality with the remainder of the field, were manured with thirty-eight two-horse loads per acre, of barnyard manure, and the remaining five

acres received one ton Peruvian guano, at a total cost of about \$50. This was all thoroughly harrowed in, after plowing, and the whole field was then sown with wheat, 15th October, at the rate of 1½ bushels seed per acre.

The season was remarkably dry, which was unfavorable for the development of the fullest effects of the guano. Yet the yield was twenty-one bushels per acre, of measured grain, weighing sixty-two pounds, and of very superior quality.

The other three acres manured with cattle dung, yielded about sixteen bushels per acre of wheat decidedly inferior to the first.

There was another peculiarity about the result, decidedly in favor of the guano. Both portions of the field were seeded with grass and clover in the spring. Not a particle of this was visible on the three acres, while the seed of the five acres manured with guano, had all taken beautifully. This latter was an advantage we had not looked for. We feel bound to add, however, that we should look for a benefit to the grass in after years, on the three-acre field, which would not be seen in the five acres, a greater proportion of the fertile ingredients having already been exhausted by the previous crop.

SEASON FOR FELLING RESINOUS TIMBER.

IN cutting timber, of all kinds, advantage should be taken of the season which will favor their duration and strength. Thus oak and most other kinds of non-resiniferous trees, as far as the knowledge of practice extends, are stronger and more durable when felled in early winter at the time the pores contain but little sap. On the contrary, the timber of pine, larch, and other resinous trees, cut in spring or early summer, when the pores are filled with resin, which is, in fact, a sort of embalming, possesses a greater degree of strength and will endure longer than if cut when the resin is absent from the wood, which is more or less the case in autumn or winter.

We have no hesitation in stating, that, good heart pine, cut in spring, or early summer, when full of resin, is fully equal in lasting qualities to any hard-wood timber that can be produced, quite putting in the shade the processes of Payne, Kian, and Burnett, from the efforts of nature being more freely carried out than can possibly be done by the very best exhausting engine and hydraulic presses that have yet been made.

OVERFLOWING MEADOWS.—The overflowing of meadows, for the purpose of promoting vegetation, was among the pursuits of the ancient cultivators of the then-existing pasture lands. Columella says: "Land that is naturally rich and in good heart does not need water set over it, because the hay produced in a juicy soil, is better than that excited by water; yet, when the poverty of the soil requires it, the land may be overflowed." We find on record, also, the following opinion of Cato: "As much as in your power, make water meadows." Again, from the observations of other authors, it is fair to infer that water meadows were numerous in former ages, from the want of good herbage for their stock.



AN OVER-FED SOW AND PIGS.—FIG. 2.

REMARKS ON THE PRINCIPLES OF BREEDING.

BREEDING, with a view to improvement, may be said to be founded on Nature's established law, that "like begets like." This, however, is only true in part, for there is a constant tendency to change, arising from a variety of causes; such as domestication, living in a different climate, or on a different kind of food. The management to which animals are subject has, also, its influence. While these may be looked upon as the chief causes in operation, that produce this constant change, they are the means, at the same time, in connection with other causes, which are used to effect an improvement.

In order to improve the breed, there are two modes advocated by practical breeders. One is commonly called the "in-and-in system," and the other that of "crossing." The former was practised many years ago, by Mr. Bakewell, of England, which, at least, had the effect of destroying the prejudice that had previously existed against breeding from animals of the same race, or blood. But the system of breeding in-and-in, it has since been ascertained, has a tendency, after a time, to deteriorate the breed; in fact, it is limited, so far as its benefits are concerned, unless the utmost care is observed in the selection and management of the stock, avoiding everything that can possibly tend to hereditary disease. To accomplish this, the breeder must select such animals as his judgment and experience will convince him will be likely to unite in their offspring the qualities sought. From their progeny, again must be selected only those animals which more completely exhibit the requisite qualities, and so on, from generation to generation, until the character desired is fully developed. The importance of continuing this process for a number of successive generations is obvious, from the fact, that peculiar traits of character, often disappear in the first, and reappear again in the second or third generation. A desired character may be found in the parent, and inherited by only a part of the offspring, and the requisite point can only be uniformly developed by a careful selection through several consecutive generations. By this process, it is apparent that this system must be adopted; yet, at the same time, it is desirable to avoid too close alliances. Hence, it is considered better to breed more distant members of the same family together than those that are more nearly related.

In improving the breeds of animals, the chief points to be arrived at, consist in reducing the parts of the least value to the least possible dimensions, which may be regarded as offal, as the head, neck, legs, &c., while the large quarter or ham and deep chest, for fattening, and square, well-set udder, large milk veins, mellow skin, and kind temper for milking qualities, should all be developed to the greatest possible extent. In order to produce these, a strict regard should be paid to pairing with the view of correcting an imperfection in one animal by a corresponding excellence in another. For, the character of the parent is more fully impressed upon the offspring when the former is in the most vigorous period of life. Consequently, neither very young nor very old animals should be selected for the purpose of breeding. All the conditions of soil, situation, climate, treatment, and food should

be favorable to the object sought, and particular care should be taken to bring the male to the mind and taste of the female, and for the first year, at least, that the young are well supplied with an abundance of nutritious food, and with comfortable shelter and shade. Furthermore, every female, while pregnant, should not only be well fed, but care should be observed that the food be of a proper kind. Let it be remembered, also, that the growing fœtus has blood, flesh, and bones to form, as well as its mother; and therefore a greater proportion than usual of the constituents which go to make these, must be supplied by the food of the dam; otherwise, the fœtus will suffer, as well as its parent. Again, it should be borne in mind, that, no breeding animal, either male or female, should be made too fat; for the former would often become too heavy and unwieldy by their joints and sinews being, as it were, possessed with little action, or effect, by a load of useless and injurious fat; neither would a female, in a state of pregnancy, be in a natural and safe condition, either as regards herself or her young, when thus unnaturally encumbered. To illustrate more clearly my meaning, let us take, for instance, a breeding sow, as denoted by fig. 2, which has been too highly fed, and it will be obvious that she must have been incommoded with an unnecessary and cumbrous weight during the latter stages of pregnancy; and besides, her offspring, would become contaminated with sickness and disease, which, sooner or later would be communicated to their progeny.

The system of "crossing" is founded on a principle just as secure, as regards care in selection, as that adopted by Bakewell in breeding in-and-in. For, it is well known that certain diseases are hereditary, and so is color, none of which can be changed nor got rid of except by crossing. This system, therefore, requires great care in selection, as well as in management. This tendency of "like begetting like," is forcibly illustrated in the results of crossing various breeds of cattle, such as Devons with Herefords, both the color and form of the parent animals being thereby modified or changed.

As a general rule, animals produced by crossing are the most profitable either for meat or milk. Most of our good breeds have been perfected by this system, and selection has long maintained them. A cross is comparatively the operation of a moment; and its end once attained, the breeder's object is *not to repeat*, but to *maintain* it. B.

BEWARE OF THE RING BONE.—If colts stand on a plank or any hard floor that is not well littered, they will be subject to the ring bone. When breeding horses, we left the floor of the colt's stables, of the soil over which they were built. If this should be a deep loam, or of a clayey texture, then remove the soil about two feet deep, and replace it with sand, or the finest gravel to be obtained. Colts should also be let out to exercise in a yard, or open space, every day during the winter, when not particularly stormy; and in this yard there should not be older horses, or any horned animal which can do them injury. Being very playful, they are more apt to provoke attacks upon them than other animals.

COTTON CROP AND PROSPECTS.

ALTHOUGH the article cotton bears now a very reduced price, yet it is a crop of so much importance that you may possibly wish to know something of it from this, the "banner state" for cotton. I have not personally seen so much of the crop this season as usual, but my information from reliable sources and from letters is more full.

Last year I placed my figures at 2,200,000 bales, and the crop of New Orleans at 1,150,000 bales. I was wrong in the first about 150,000 bales, and in the second about 70,000. If we consider the remarkably late period of a killing frost, 20th November, and the extraordinary fine fall for picking, I presume my estimates will bear to repeat now.

I now place the crop of the United States, at a little over my last year's estimate, and yet with the ordinary increase, I cannot think it will exceed that of the last year. I therefore place 2,300,000 as the ultimate figures—and that of New Orleans at 1,200,000 bales. My reason for so doing is as follows:—We had a killing frost on the 2d of November, earlier than for years I think. Crops in this country were more difficult to cultivate this year than I ever knew them, and were generally more injured by grass and seasons. Yet those who did cultivate well, are making very large crops. There was too much rain for the rich low grounds, at one time, but the favorable months of September and October made a very great difference. There are many planters now done picking, and others with nothing left but the gleanings. The crops of Alabama and a part of Georgia are fine, whilst a part of Carolina, Georgia and Mississippi cannot make over a half crop. The region that ships to New Orleans, is fully competent with a fair average season, to grow one half that is now made, and last year, she actually received one half the crop. Whilst she must increase, the seaboard states must diminish, and I think the day is not distant when New Orleans will ship 1,500,000 bales.

We must bear in mind when we are considering the resources of this vast valley, that the enterprise of her citizens will render futile all ordinary calculations. We are almost mad with the improvement on cotton seed. You hear planters of great respectability speak of growing 2,000 lbs., 3,000 lbs., and even more per acre upon land, that never did grow over 1,500 or 2,000 lbs. And the picking of hands is equally great. I know it will be looked on as humbuggery to talk of these matters, but if true, it would be well for that "gallant state" and her two sisters also, to be up and doing, to be preparing for the day when cotton cannot be grown by them.

A neighbor of mine had picked from one field planted with improved cotton seed, by the 15th of October, 1,000 lbs. per acre, some of his hands picking for days together an average of 3 to 400 lbs. per day. And as an evidence of what has been done, I have a boy about 16 years of age, that picked in October, 1847, 6,116 lbs. and in September, 1848, 5,872 lbs.; and if I had a full crop in, with the improved seed and good culture, he could do this for 3 months, as a whip was never cracked at him—and only "25 cents for every 300." This boy picked over 4 bales per month, and last year he picked out eleven bales, I think, as I care not to go

over figures now. And my entire hands gathered 9 bales last year before the 20th of December; this year 5 bales per head were off, corn gathered, potatoes and pindars dug by the 2d day of November.

I believe it to be entirely feasible, that with the present improvement in cotton seed, that all the lime portions of Mississippi, though much worn, and all the rich lands, can be made without much extra labor to produce 300 to 500 lbs. more of cotton than they now do. I believe sincerely that I have seen a piece of land that produced this year, over 1,500 lbs., that could not have produced 1,000 lbs. of our ordinary seed. Suppose that all this valley would enter into the same spirit of improvement, the crop would swell to 50 per cent. more, and thus would New Orleans receive 1,800,000 bales. What would the old lands in the Atlantic states do?

M. W. PHILIPS.

Edwards, Miss., November 8th, 1848.

P. S. Nov 12. I now find, that nearly all of late balls are destroyed by the frost, which must cut off a large part of planters' calculation. My own crop is as short as in 1846, the worm year. There are others who are much shorter than I am. I know at least half a dozen not far off; one will not make over three or four bales; the highest crops are made on that plantation. I have known it eighteen years. Another has finished picking in ten days, and so on.

P.

THERE were two powerful causes to depress prices of cotton last season, to say nothing of the temporary influence resulting from our late war with Mexico. The first was a full (not an over), production of the last preceding crop; but the second, and by far the most influential, was the paralysis of nearly all business operations on the continent, in consequence of the late general revolutions in Europe. Notwithstanding the abundance of the crops, the price opened well early in the season, and the quantity did not seem to weigh heavily upon the markets, till the news of the revolution in France, when sales and prices dropped as suddenly as the heads of the old revolutionists under the guillotine. They have not since revived, and probably will not until reliable governments are re-established in Europe.

From the preceding estimates of the present crop and the opinions which each may form for himself, of the restoring elements in European affairs, are the ruling prices to be conjectured for the coming year. So far as our own government is concerned, most of the present appearances are favorable. We have concluded a peace with Mexico—our relations are pacific with all the world—our commerce is extending, and our agriculture and the useful arts are moderately prosperous (although they might be more so), and we have passed beyond the doubts and uncertainties of the presidential and congressional elections, and reached ground where a majority of our intelligent business men consider we shall at least be safe for the next four years. As the largest demand, however, is from abroad, and our crop is abundant, we shall for ourselves, look for moderate prices in this staple, for at least a year to come.

Professor McKay, of Georgia, in an able article in the Merchant's Magazine for January, estimates

the production of the United States for 1849, at 2,550,000 bales; and that of the whole world at 2,800,000 bales, and then adds: "This exceeds considerably the amount of any former year, but as prices are very low, and as the consumption in the United States has gone steadily forward, the demand will nearly equal this, in spite of the wars and disturbances in Europe. The stocks on hand are not extraordinarily large at present, and this slight increase can be borne without further depressing prices."

With the above information, we leave this matter now with our readers, presuming that each one is furnished with such data as will enable him satisfactorily to make up his own estimate of the cotton crop.

CHEAP METHOD OF FATTENING POULTRY.

Of the great quantity of poultry raised in this country, I am surprised that so much of it should be of ordinary quality, when so little trouble is required to make it excellent; and, in order to sustain this assertion, I will detail a small experiment made by me, solely with a view to convince myself of the feasibility of *fattening poultry cheaply*.

In November, 1844, I had a box-made and divided into three parts, eight inches by fourteen, just large enough to admit one fowl to each division. It was made tight enough to exclude the light of day mostly, yet I left openings enough for fresh air. I then placed two roosters and one hen turkey, in the box (one fowl in each division), confining their feet to the floor, so that they could not move from the position in which I placed them. The front of the box, I hung on hinges, for convenience of feeding, &c.

Most people have noticed that at sunrise and sunset, all kinds of poultry eat voraciously, and I supposed that if they were kept in the dark (at which time of quiet all animals fatten most), and the sunlight admitted several times during the day, and fed at that time, they might be induced to take on fat rapidly, and in this I was not disappointed. I fed them with rice boiled in milk, and sweetened with molasses, giving them water to drink but once during their confinement, and at the end of sixteen days I killed them—handsomer, and fatter birds I never saw. By some such method as this, I have no doubt that the income of farmers from this source, might be greatly augmented. A series of well-conducted experiments of this kind might be of benefit to your readers and the public generally. Who will undertake it?

In vol. 6, p. 192 of the *Agriculturist*, "Mr. Phares" said he would communicate a simple method of *caponizing fowls* without the usual array of implements. I have, in common with the rest of your subscribers, waited patiently for it till now. Can he not communicate it in your next number?

J. B. D.

Boston, December, 1848.

The method pursued by our correspondent, to fatten his poultry, is, with the exception of mixing grease of some kind with the food, one of the most *rapid* with which we are acquainted; but whether one of the *best*, is quite another question. We never ate meat of any kind thus fatted, which was not soft,

flabby, and tasteless; and we also think, unhealthy. The system of "box feeding," as it is termed, and at present getting into vogue rapidly in England, is very objectionable. They confine fattening cattle in boxes, almost as closely as our correspondent says he did his fowls. What is it that gives Southdown and Welch mutton its delicious flavor? It is the active habits of the sheep, combined with the superior sweet and nutritious grasses they feed on, which grows in their hilly and mountain pastures. The delicacy of the lean, tender meat of the game-cock breed of fowls, is owing, in a measure, to their active habits, and not being too closely confined when fattening. It is this, also, which makes the meat of all well-fatted game so delicious, such as venison, moose meat, pheasants, grouse, &c.

NEW VARIETY OF APPLE.

I HEREWITH send you some samples of an apple which is said to have originated in this place, and is much esteemed by all my neighbors who have cultivated it. I have never seen it in market, and I believe it is unknown out of Norwalk. It is called the "Buck-Meadow apple" here, from its having first been found in an old meadow by that name, and is supposed to be a seedling.

If this apple is not known among fruit growers, please to describe its qualities under some appropriate name, and oblige

GEORGE SEYMOUR.

South Norwalk, Ct., Dec. 4th, 1848.

The above apple is of an excellent flavor, and appears to possess good keeping qualities. We have sent a sample to the N. Y. State Agricultural Society, which will be examined at their next meeting.

STEAM POWER FOR AGRICULTURAL PURPOSES.

FROM the variety and space required for most operations on the farm, steam power has, thus far, scarcely been adopted for agricultural purposes generally. Many experiments have been made in England and elsewhere with the steam plow, but it has not yet been made to work successfully for the pulverization or removal of earth to any extent.

Our recent English exchange periodicals bring us a description of a *steam excavator*, which promises great results. It can also be worked by horse power. It is stated, that when propelled by horses, it will cut a ditch at a single operation, three to five feet deep, at the rate of four feet in length per minute, leaving a finished excavation, with smooth bottom to receive the tiles for underdraining. The width is not stated, but it is supposed to have been only wide enough to admit of laying down the draining tiles. This machine has also been applied to deep subsoiling and pulverizing the earth, to the depth of twenty or thirty inches; and also to bringing up so much of the subsoil and mixing with the surface as may be required. The price in England, is stated at \$150.

We know nothing of the merits of this machine, but wish some of our agricultural associations, or some liberal and enterprising individuals, would occasionally import similar improvements, and if not entirely adapted to our necessities, Yankee ingenuity might soon alter them to suit our wants.

LARGE HORSE CART.

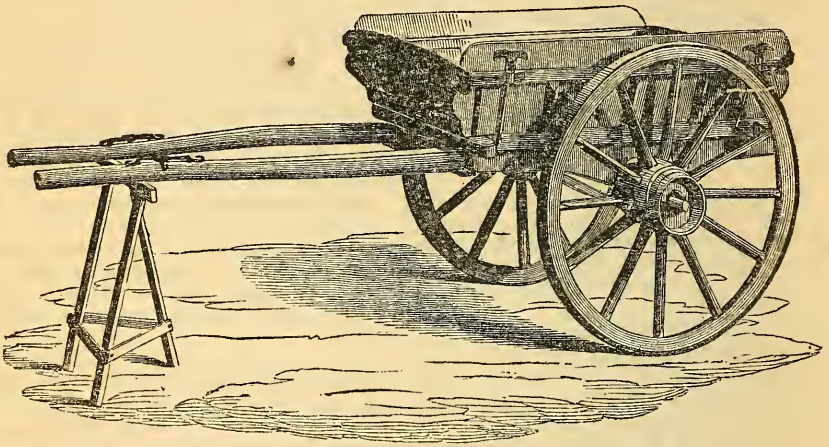
THE cut below represents a very useful farm and plantation tumbrel cart. It is much more convenient than a four-wheeled wagon in many respects. It can be worked either by one or more horses; one or two additional horses can be hitched to it side by side, to draw outside the thiills, or they can draw *in tandem* if preferred. It admits of easy backing or short turning, which is of great advantage in particular locations, and especially among thickly-planted rows upon the field.

But its greatest advantage is in the facility of dumping, or upsetting, the load by removing the catch or staple, which confines the box upon the thiills in front, when a little effort sends the box nearly perpendicular, whirling over upon its axis (the axletree), by which the load is summarily disposed of. In discharging dirt, manure, sugar cane, and many other crops, this is an item of great consideration. Prices, from \$50 to \$80.

TO KEEP UP A CONSTANT FERTILITY IN THE SOIL.

THE object which we have in view in manuring our lands, is to keep up a constant fertility, which will enable us to reap from them every year the largest possible crops. It is but reasonable to suppose, then, that constant cropping would speedily exhaust any soil, unless we return to it, in some shape or other, those substances of which we deprive it; and that this is in reality the fact, every day's experience proves to us. It has often been demonstrated, that if plants, grown on any given space of land, be plowed into the soil whilst they are in a green and succulent condition, the fertility of that land is much increased.

This proceeds from the quantity of nutriment those plants have abstracted from the atmosphere during their growth; so that by their being plowed into the soil whereon they had grown, they afford to it a much greater amount of substances than



HORSE CART.—FIG. 3.

they receive from it, and consequently whatever excess they may furnish, so far enriches the soil.

Some plants are much more remarkable in this respect than others, for instance, lucern, or clover, plowed into the soil previous to blossoming, enriches it exceedingly. This is what is sometimes termed "green soiling;" and by it, the plant used is made the means of conveying to the soil the carbon and ammonia, which in its growth it extracts from the atmosphere. It also appropriates to its own use the excrementitious matter deposited by other descriptions of plants growing in the soil previously, and deposits its own excrement, which serves as food to others succeeding it. In the middle and northern parts of the United States, and all cold climates this excrementitious matter, voided by plants, is much longer passing into putrefaction than in tropical countries; the necessity, therefore, of adopting a rotation of crops is much greater in the former than in the latter.

All plants void excrements, which, when acted on by air and moisture, putrifies and becomes converted into "humus," or vegetable matter in a state of decay. This deposit of organic matter is com-

mon to all plants and exercises a very beneficial influence on land, by furnishing it with a substance capable of being converted into humus, which is so desirable in a soil; but plants cannot long be replanted in the same soil without being seriously affected by their own excrement; so much so that at length they altogether fail. Artificial aid, however, induces a more speedy conversion of this matter into humus, than would otherwise take place, which is effected by frequently turning up the soil with the plow or hoe, so as to expose the excrement to the influence of the atmosphere; and by irrigating the land with river water; as the water of rivers and streams contains oxygen in solution, which effects the most rapid and complete putrefaction of the excrementitious matter contained in the soil which it penetrates.—*Organic Chemistry.*

SELECT GOOD STOCK.—A great hindrance to the increase of good stock, arises from the farmer not being aware of the difference in the value between one breed and another. Many argue that "cows are but cows;" and that if those they have are well kept and carefully bred, they would be as good as any others.—*R. Jardine.*

A CHEAP PAINT.—SOAK FOR WHEAT.

Your Reviewer, in p. 339, wishes to know if "a cheap paint" is calculated for outside painting. Tell him it will do for any side.

For five consecutive years, I have soaked my seed wheat in blue stone (sulphate of copper), and have had neither smut nor Hessian fly. The proportion is 1 lb. to every 5 bushels of wheat, which is put in soak in the evening for the next day's sowing, keeping the water to put the next wheat in, adding enough more water with its proportion of blue vitriol to cover the wheat. It should be dissolved in a small quantity of hot water, as it is hard to dissolve in cold. If the weather should become wet and any of the soaked seed not sown, it may be spread in an outhouse without injury, till the ground is fit to receive it. JAMES BOYLE.

Annapolis, Nov. 13th, 1848.

In addition to the above, we have received the following communication on the same subject:—

Let me ask my "quaint" old friend, Reviewer, to turn to p. 378 of Pingry's "Painter and Varnisher's Guide," printed in London, in 1816, and he will find a full and scientific account of cheap paint.

Mr. Boyle has described only one mode of preparation, applicable to in-door work. The addition of white Burgundy pitch makes a paint for out-door objects. Having used this paint, I can answer for its excellence. The recipe given by Mr. Boyle is used by the Italians and others in every kind of "distemper" work made with chalk or argillaceous earths. C. D.

Seneca, N. Y. Nov. 1848.

UPLAND, OR MOUNTAIN RICE.—This yields a fine crop on poor, sandy ridges, and will not thrive on lands that are wet. It differs but very little in its appearance from the low-land rice, except that it grows to only about half the height. It is generally sown in drills about eighteen inches apart, and worked both with the plow and hoe to keep out grass and weeds. It may be sown in the southern states from the beginning to the end of March. It yields a good crop of hay the first season, and often springs up from the same roots the following spring. Two bushels of seed are sufficient for an acre.

Another method, thought by some to be better, is, to sow broadcast, harrow in, and then cover the ground two inches thick with old rice straw, which will keep down the grass and weeds, and nourish the growing crop. The upland rice will yield about 1,000 lbs. per acre.

THE BEST MANURE FOR SUGAR CANE.—The very best manure in the world for cane plants is believed to be the cane plant itself; and if to this be added a liberal atmospheric manuring (plowing), nothing further will be required to keep up a continual and unimpaired fertility. The cane trash and leaves, in decaying, become converted into humus, or vegetable mold, and supply an abundant store of carbonic acid and nitrogen to the young plants. Their ashes contain silicate of potash; carbonates of lime and potash; phosphates of lime, soda, and magnesia, phosphoric acid, oxides of iron, &c., &c.

PEAR TREES INJURED BY INSECTS.

THE following correspondence between Dr. Plumb, of Salisbury, Ct., and Professor Harris, of Harvard University, cannot fail to be read with deep interest by all of our readers who are engaged in the cultivation of the pear, particularly by those who have been puzzled for a long time as to the cause of an apparent disease, which after all is nothing but the work of an insignificant insect:—

When a man has arrived to half your eminence in any profession, he is considered public property, I will, therefore, make no other apology for this intrusion.

From the year 1834 till 1838, inclusive, I lost several hundred pear trees by one disease, most of which were young. They have not been troubled with the malady since, until the present year. Now some thirty are affected. The bark turns black, beginning to change sometimes as early as July; more often in August; then again not until September. Sometimes I lose trees by the disease called "pear blight," which first appears by a change in the leaves. But the disease I wish now to describe, shows itself first in the bark. The leaves go through the season well enough; the greater part of the trees do not put on foliage the next season; some leaf out, partially, two years; yet the disease has terminated fatally, in every instance, with me. I have sometimes cut off small trees near the ground, and grafted them. Occasionally they live a few years; but it is lost labor.

The present season, I have become jealous of an insect being the author of the mischief. I first observed them on the affected trees in September; yet they might have been there through the season. They were found on the diseased trees, and no where else. I do not find them exactly described in your valuable report to the Massachusetts Legislature. They appear to belong to the aphid tribe, and jump like fleas. I send you specimens of the insect in their various stages of existence, and likewise of the disease. The insects were caught about the middle of November. Any information relative to their natural history, or to the disease affecting my trees will be thankfully received.

OVID PLUMB.

Salisbury, Ct., Dec. 4th, 1848.

PROFESSOR HARRIS' REPLY.

You have correctly stated that the insects which injured your pear trees, "belong to the aphid tribe, and jump like fleas." Although this particular species is not described in my Report, or "Treatise on Insects Injurious to Vegetation," some brief remarks on the genus *Psylla*, to which these leaping plant lice pertain, will be found in the work, pages 186, 187.

All the specimens sent had completed their transformations, and were in the winged, or adult state, both males and females; but were injured somewhat by mold, and had probably lost their natural colors by drying, so as to render it uncertain whether they belong to any described species or not. It is highly probable, however, that they are the true *Psylla pyri*, of European naturalists, and cultivators, or a closely-allied indigenous species.

Not being acquainted with your insect in the

living state, I cannot give any account of its habits and transformations from personal observation; but will add some remarks upon those of the European *Psylla* of the pear tree, as related in foreign works. It is not unlikely that they will apply equally well to your insect.

The *Pear Psylla*, of Europe, in its winged state, is about the size of a large aphid. The sexes pair in the spring; and the female lays her eggs as soon as the buds begin to expand. The eggs are deposited in great numbers, near each other, on the young leaves, blossoms, newly-formed fruit, and shoots. They are oblong, yellowish, and look somewhat like grains of pollen. The young, hatched therefrom soon afterwards, resemble wingless plant lice, and are of a dark yellow color. They change their skins and color repeatedly; and in the course of their growth acquire rudimentary wings, when they are said to have entered the pupa state. While still young, they fix themselves to the bark of the twigs of the last year's growth, one after another, in rows, and there remain till their last change approaches. By means of their suckers, which come from the under side of the head near the breast, they puncture the bark and imbibe the sap. Like many aphides, they gorge themselves to such a degree, that the fluid issues constantly from their bodies in drops, is ejected over the surface of the twigs, and mingled with their more solid castings, defiles the bark, and gives it a blackish color, precisely, it would seem, like that of the twigs which you sent to me. They continue their polluting and exhausting spoliations throughout the summer; and, in the autumn, having come to their growth, they disperse among the leaves, cast off their pupa skins, issue in the winged or adult state, and are ready to take wing in search of winter quarters. In some sheltered crevice, or other retreat, they pass the winter; and, on the return of spring, come forth, pair, and lay their eggs.

It is observed that when considerable numbers attack a pear tree, the latter soon assumes an unhealthy appearance, its growth is checked, its leaves and shoots curl up, and the tree dries by degrees, if not freed from its depredators.

Kollar recommends brushing off the insects when young, with a brush of hog's bristles, and crushing under foot those that fall; and advised also that, in the month of May, when the winged females are about laying their eggs, the insects should be searched for, and destroyed by hand. Such a process, however, would be thought altogether too tedious and uncertain here. I would therefore suggest the expediency of washing the twigs with a brush dipped in strong soapsuds, containing a considerable quantity of flour of sulphur stirred into it. If this be done *before the buds expand*, the latter will not be injured thereby, while the sulphur and soap will so coat the twigs as to deter the *psyllæ* from laying their eggs upon them. A weaker application of the same may suffice to kill the young insects after they have fastened themselves upon the bark.

On some of the little twigs sent, I saw a few of the scale insects belonging to the genus *coccus*. These have been very troublesome to my young apple trees; and I have got rid of them, after fail-

ing with Judge Buel's wash, by painting the trees, from bottom to the tips of the twigs, with soft soap, early in the spring. Common household soft soap, applied in this way, proved completely effectual. It was put on with a painter's brush.

The insects accompanying the foregoing letter, were of a brownish color, with transparent wings, marked by a few dark veins. Each measured one tenth of an inch, or rather more, from the forehead to the tips of the closed wings. The front of the head is notched in the middle. The eyes are large and prominent, and with the thorax, resemble somewhat in form those of our common *cicada*. The antennæ are longer than the body, slender, or threadlike, and tipped at the end with two little bristles. The body of the female is pointed at the end, and is more of a reddish hue than that of the male.

THADDEUS W. HARRIS.

Cambridge, Mass., Dec. 9th, 1848.

YANKEE FARMING.—No. 8.

Good people all of every sort,
Give ear unto my song;
And if you find it wondrous short,
It cannot hold you long.—*Goldsmith.*

Improvement of Bog Meadows.—My readers (if perchance I happen to have any), will recollect in the first number of these sketches,* that I spoke of Uncle Sim's bog meadows; but as many out of good old Yankeedom may not know exactly what these are, I will take the liberty of briefly explaining.

A bog meadow, then, is a flat, alluvial formation, of a greater or less depth of rich, vegetable soil abounding with springs, or so much overflowed by some stream running through it, as to keep the ground completely saturated with water; and hence, precludes the growth of anything more valuable upon it than a coarse, watery grass, of a very poor quality. Such a meadow is generally easily drained by ditching it sufficiently to carry off the spring water, or by excavating the bed of the stream bordering it; yet, occasionally, both these operations become necessary. But whenever well done, a bog meadow or swamp, is soon changed into the most valuable land we have for the production of red top, Timothy, and clover; and frequently when put under the plow, proves first-rate corn and potato land.

Attached to Uncle Sim's farm, were about twenty acres of this kind of bog meadow; and though the grass which grew there was hardly equal to rye straw, yet he annually mowed it at a cost of labor greater than the miserable hay was worth when stacked; and this he fed to his young cattle during the winter, which checked their growth, and left them in the spring as poor as a half-starved crow.

Year after year had I endeavored to persuade him to drain this meadow; and moreover, when done, in consequence of there being several feet fall in the stream just before it entered its borders, he could easily build a dam across with a sluice way, through which to irrigate it at will, and thus keep up its fertility without the trouble of manuring; and yet take large crops from it every year, worth at least six times what it now produced.

Till Uncle Sim had got stuck in the snow with

* See vol. 7, page 30 of the *Agriculturist*.—Ed.

his big log, and was indebted to the doughty little Major Godell to help him out of his difficulty, all I could say had no effect upon him; but one day after his late famous mowing bee, as we were fishing along the banks of Silver Brook, I broached the subject again, when his obstinacy slightly gave way, and he seemed half overcome by my arguments, and almost made up his mind to try an experiment with a few acres that very season. But then, again, up rose his deep-abiding prejudices; "his father nor grandfather, nor no other Doolittle he had ever heard on, had ever done the like; then why should he? It seemed clear agin nater. If the bogs was to be dry, then they would 'a bin made so." Yes, I replied, and by the same course of reasoning, your famous nine acre mowing lot, which yields such large burtheners of the best of hay, according to your principles should still remain in the original forest that your ancestors found it, when they first came to settle here. I dare say, had the aboriginal inhabitants been asked why they did not clear off the trees and sow it with grass, and keep cattle, they would have answered something as you do: "That if the Great Spirit had designed it for such a purpose, he would have formed it so; that Indians were created to live in the woods and hunt bears and deer for a living, and not to cultivate meadows and breed cattle." The truth is, in one sense, there is no such thing as following nature. We must compel her to follow, or rather work for us. "Wal, Sargeant, I don't know how it is, yet somehow or nother you allous out argue me; but then you be so bookish I can't stomach that"—snapping his fingers with great contempt—"and you are eternally talkin' about what them 'ere big dukes, and lords, and sirs, is a doin' on over the water. I hate all 'ristocrats as a mushquash does a mink; though the neighbors still call me a 'ristocrat, cause I'm a federal, while every body else in town, 'cept minister and old deacon Billins, has got ashamed o' the name (and yit General Washington was one, and war'n't he the greatest and best man that ever lived?), and turned republican, or whig, or dimicrat, or loky-foky, or somethin' else, I knows nothin' about. Oh, yes! a 'ristocrat is just like a mink; he sucks the blood out of the mushquash, though they be the biggest and most industrious. But a mink 's the cunninest—the insiniatin' rascal—and 'tis he that's killed all my ducks, 'cept an old drake, and half my goslings' this summer. I only wish I had him here now"—and then he shut his teeth firm together, grinned, shook his head as a dog would with a woodchuck in his mouth, and squeezed his vice-like fists—"I'd choke his life out on him, the oily black villain that he is!"

Never mind politics, my good neighbor, said I, appeasingly; recollect we are talking about farming; and as for titled personages, why you know I care as little for them in the abstract as you do; but then, the opinion of such a man as Sir Humphrey Davy, one of the best agricultural chemists of his day, or the experiments of so excellent a practical farmer as the Duke of Portland, or Earl Spencer, are not to be gainsayed, although they may bear titles, which fortunately in our happy political condition are not allowable; yet they are men, and consequently their opinions are as good as if they were the best republicans to be found in the

land. "Wal, but its all book farmin' that you're talkin' about, and this, you know, Sargeant, I hate. It's like 'a dog eternally barkin', but which never bites,' and that goes to signify it's all talk and no work." Yes, but book farming, as you term it, is the faithful record of preceding work. "No sich a thing, sir. No; it's only some vagabone of a fellow that's too lazy to work, and so he goes to writin'. Wal, that makes me think o' the barkin' dog agin. One puppy sets up a yelp, and all the tothers in town jines in. One book makes another, till the world gets so full on 'em if a body lived as old as Mathuselah, he'd hardly git time to read even their titles, to say nothin' of their contents; so I jist lets 'em all alone, I do, which saves my money and my time, too. 'It aint all goold that glistens,' I can tell you, Sargeant. Book makers is consated, they thinks nothin' can be done without 'em; and him that reads 'em, 'goes out for wool and comes home shorn.' 'Never buy a pig in a poke.' 'Say well is purty good, but do well, accordin' to my notion, is a great deal better.'"

"Do well," I repeated, catching up some of his last words, before he could take breath to continue with his never-ending repetition of old proverbs, that is exactly what I am at, Mr. Doolittle, I added, strongly emphasizing the two last syllables of his name; for I felt a little nettled at his prejudiced tirade against agricultural books.

By this time we had fished so far down the stream that we had unconsciously crossed Uncle Sim's line, and got on to the premises of his nearest neighbor, Joe Watkins, who, to our mutual surprise, the past month, had been doing with his meadow, exactly what I had recommended to Mr. Doolittle. And now, I continued, if you don't like the operation of aristocrats, please to see what that "simple critter," as you term him, our friend Joseph, has accomplished. If he don't prove wiser than yourself in this matter, I am then greatly mistaken. "Yes," said Watkins, advancing to meet us with spade in hand, and all splashed with mud, his pantaloons rolled up above his knees, and his shirt sleeves above his elbows—"didn't I go up the old Connecticut, last year? And didn't I see how rich it made them 'ere big meadows by its annual overflowins? And havn't I read in the Bible about the overflowin', too, of the Nile?" Take care what you say, Joe, I replied, or Mr. Doolittle here, will shut your mouth with an essay against book farming. "Wal, let him try, then," he answered, rather doggedly, "for I've seen now as well as read; and it was beyond belief the great crops of rye, and Indian corn, and broom corn, and grass, and I don't know what all I found jist from them 'ere overflowins, and waterins. Then says I to myself, says I, Joe, if them 'ere big rivers can do all this, when I get hum, I'll jist see what that 'ere little river, Silver Brook, will do on my meaders, I will—but I'll drain 'em fust; and so you see, Sargeant, here I be."

Good, Joe, said I slapping him approvingly on the back, you are the man for my money; and one of these days I'll tell you about the chemical value of water, and the fertilizing properties it holds in solution; but we'll take good care that Uncle Sim is not by to hear us. "No you wont, nother," sharply spoke up our obstinate, anti-book farmer,

at the same time slapping his thigh and cocking up one eye, "I'll be there jist to plague ye, if nothin' else. Howsomdever, if you reckon I'm goin' to be beat by *Old Mr. Joseph*, of the Nile, or *Mr. Travelled Joseph*, of the Connecticut, or *Mr. Ditch Diggin' Joseph*, of Silver Brook, you are amazin' mistaken, I can tell you. I'll have every spring cut off from my meader this month a year, and that's more than Joe has yet done; and I'll ax none o' your books to help me nother. All I want is my own head, and feet, and hands, and them of my boys; 'in for a penny, in for a pound—" "Bravo, I interrupted, quoting a proverb to match his, and put an end to a dozen more I feared would be forthcoming, 'a good resolve is half the work;' but we are out fishing now, so let's done with the meadow talk for the present.

Well, Joe, though we have caught plenty of other fish, as you see, we have not been able to get a trout bite during the whole day. You are a genius in this line, can't you help us to some? He replied the weather was too hot, and they were too well fed and sluggish to rise to the bait from the cool, deep places where they nestled, yet if we liked, he would try his hand at "ticklin' up a mess for us." "Ticklin' trout," exclaimed Uncle Sim, with eyes and mouth suddenly wide open, "what's that? I never heard o' sich a thing; why, you might as well talk to me about animal magnetizin' 'em; but I guess you wond find the shy critters settin' sleepy, like foolish humans to be rubbed down the head and sides at will." "Come along, then, Mr. Doodoubtful," added Joe, a little nettled at the want of faith of my neighbor in his proposed operations, "and if I don't show you a thing or two, then I'm willin' to get a duckin' for nothin'."

Saying this, he led off to a pool in the brook about twenty feet broad, and five feet deep. Here we found the water so clear, and the gravelly bottom so white and clean, that we could distinctly see now and then, the tail of a fine trout, just peeping from under a large loose stone, or thin ledge of rock, while his body was waving to and fro in the smooth still water. "There," said Joe, "now stand back;" and instantly divested himself of his hat and shirt, and then tying his pants close around his waist with his suspenders, he took up a heavy stone in each hand, for ballast, silently sunk into the lower edge of the pool, and darted like an otter for the trout. As he reached the rock under which they lay, he quietly let go his ballast, seized the ledge with his left hand to prevent his rising, and with the right he carefully began touching the trout at the tail, then up its sides, till he reached the gills, which being partly open, he instantly inserted his thumb in one, and forefinger in the other, and to Uncle Sim's utter surprise, backed a few feet down the stream, and then rose with it to the surface of the water, and brought it ashore. This he repeated on an average two or three times from each pool, before frightening them, and at last obtained each of us a good mess.

This great and unexpected success, so excited Uncle Sim, that he resolved to undertake *tickling* the next pool. It was in vain I told him that with his great bulk, he could not possibly rival the eel-like form of Joe Watkins, and that he would only frighten the trout away, and injure the subsequent

fishing; but he would not listen to reason; "he could tickle them out o' their seven senses, sartin sure, as well as the best man alive;" and so he stripped himself to the task. At this, Joe gave me a sly wink, and then sang out, "here, Uncle Sim, is the tail of a whopper; now's your time."

Without looking very closely, in plunged Mr. Doolittle, and down he dove for his prey, eyes wide open. He had not been under the water ten seconds, before he rose to the top blowing like a porpoise, and splashing with something large and heavy, which we could but indistinctly see, fast hold of his right forefinger.

"Joe," he yelled out like a wounded loon, as soon as he could get his breath, "you everlastin' scoundrel; why didn't you tell me that trout bit? I'll wallop your hide off on you for this trick, you tarnal ugly critter." Joe was ready to die laughing, and for the life of me I could not but join with him, when I saw that instead of catching a trout, a great black mud turtle had caught Uncle Sim by the hand! But the moment he lifted him clear of the water, the turtle let go his hold, so that Mr. Doolittle luckily escaped with a few moments of sharp pain, but a wound followed that took nearly a month to heal. This taught him not to be quite so presumptuous and obstinate for the future; and that Joe was not altogether quite the "simple critter" he took the liberty of too frequently calling him.

SERGEANT TELTRUE.

P. S. I beg, Mr. Editor, through you, to present my compliments to our excellent old friend Reviewer, and say that I appreciate very highly the flattering notices he has, from time to time, been so kind as to take of my humble sketches. His good opinion alone would have been a sufficient incentive for me to have gone on, and contributed regularly, to every number of your excellent paper; but having unfortunately sprained my wrist, in pitching, the last day of my haying the past summer, it has been impossible for me to take pen to write till now, except with great pain. If by my lucubrations I have afforded Reviewer one tithe the profit and pleasure that he has me, by his practical good sense, shrewd criticisms, and quaint wit, I am more than satisfied; and trust that whatever I may do, he will continue his writing; and that one of these days we may see each other, face to face, when we will colloquize with less restraint than we now do in the pages of the *Agriculturist*. S. T.

Agoknequaw, December, 1848.

IMPORTATION OF PURE BRED SAXON SHEEP.

WE were highly gratified in noticing on board the barque Weiland, from Bremen, arrived here on the 25th November, a lot of seventeen Saxon sheep, for Mr. J. A. Taintor, and Abijah Catlin, Esq., of Hartford, Connecticut. These sheep were purchased under the direction of Mr. Taintor, from two of the choicest flocks in upper Saxony; and notwithstanding their long journey, they arrived in good health and condition.

The wool of these sheep is of the finest and best quality; and the animals have more size, and we should think constitution also, than any other Saxon sheep we ever saw. Indeed, till now, we have had but an imperfect notion of what constituted a

first rate Saxon sheep. To give our readers an idea of these superb animals, we would inform them that a three-year-old buck weighs 150 lbs.; at the same time, he is of fine proportions, and carries the largest, and one of the finest and softest fleeces we ever inspected. The younger rams are equally promising of their age. The lot strike us as being as much superior to ordinary Saxons, as Mr. Taintor's several importations of the Spanish Merinos have proved. His personal acquaintance with the largest wool growers of Spain, France, and Germany, gives him a decided advantage in importing the very best sheep which those countries produce.

The number of *really fine* or Electoral Sheep in Saxony, has never exceeded one and a half millions. At this time there are but about thirteen hundred thousand.

During the past four years, large numbers have been taken to Russia for the purpose of improving the sheep of that country. Immense flocks are now forming near the sea of Azof, where the soil and climate have proved highly favorable for the production of fine wool. In the United States, we have millions of acres equally well suited to the growth of this superior quality of wool, and we regret that more attention is not given to its production, for it could not but be profitable. The clip of the best flocks in Saxony, is sold in fleeces at very near a dollar a pound, to the fine broad-cloth manufacturers of Belgium and France. As the duty is low on wool imported into these countries, why may not the United States assist to supply the demand as well as Saxony?

We recommend those who desire to improve their fine flocks, to examine this importation of Messrs. Taintor and Catlin. We are confident they will be highly gratified in doing so; and acknowledge with ourselves, that they are deserving the best wishes of all American flockmasters, for their patriotic and meritorious efforts in so liberally furnishing the means of improving the fine-wooled sheep of our country.

SOUTHERN MATTERS.

R. L. ALLEN having withdrawn from the agricultural implement warehouse, in New Orleans, the business will hereafter be continued, at the corner of Magazine and Poydras streets, in that city, by Mr. Stephen Franklin. From his large stock, ability and long acquaintance with the business of the south, we do not hesitate to recommend his establishment as every way worthy the support of intelligent and improving planters.

Now, that our own interest is not concerned in the remark, we may be excused for telling our southern friends plainly, what we have long been satisfied, was the truth. And this simply is, that their interests and advantage are vastly more concerned in the adoption of improved, well-made implements, than either the manufacturers or venders. They can realize as much profit, and frequently more—on a poorly-made or indifferent article as on the best; but it is the consumer who is to be benefited by the good and the durable implements.

It is said, "improved tools are not suited to the south." This is a song that is sung from the Potomac, the Ohio, and Missouri to the gulf, and when the chorus for the thousandth time is repeat-

ed, the planter thinks the argument exhausted. Let us reason together for a moment on this matter. Are there any steam engines, tobacco and cotton presses, hemp brakes, and water-rotting vats? Any plows, hoes, spades, and shovels? Any sugar machinery, costing from \$5,000 to even \$50,000 for a single plantation? Why is all this if *improved* implements are not adapted to the south? The Indians did not use any of these. A bow and arrow, a stone sharpened by rude attrition, or some coarse wooden implements prepared by the fire, were all the tools brought to the aid of savage life. Had the suggestion been made to them of the adoption of better tools, the reply would have been just what is now daily made elsewhere—"they are not adapted to the capacity and habits of our laboring people." The answer should be—"if they can do the work better and more expeditiously, or economically, we will instruct them to their use, we will make them habitual to them." Surely the advance in the capacity for using farming tools between an original Congo or Guineaman, and his well-instructed descendant, on our best-managed southern plantations, is sufficient evidence of capacity to justify advancing a step farther in the career of improvement. This fact decides something besides incapacity of the laborer; it rather proves imbecility or negligence on the part of master or overseer. We have so often seen the success of a different policy where properly undertaken and perseveringly followed up, that we doubt all conclusions that deny the possibilities of progress in improvement at the south.

We would then say to such of our southern friends as may thus far have noticed our remarks, go on in the career of improvement so auspiciously commenced;—there is no real obstacle to your progress; nothing but what is wholly imaginary, and will vanish on any well-directed efforts to remove it. Sufficient success has already been realized, to justify the most sanguine anticipations hereafter. We shall look confidently to the future for augmented crops, while the cost of their production is diminished—a result easily attainable wherever scientific treatment of the soil, manures, and products, with the use of improved implements is adopted.

THE VOLATILE PARTS OF PLANTS WHEN CONSUMED BY COMBUSTION.—The substances which it would be possible, according to known chemical phenomena, to dissipate in the combustion of plants, are carbonic acid, sulphuric acid, phosphoric acid, chlorine, and the metallic bases of the alkalies potash and soda. The other constituents of plant ashes, namely, silica, oxide of iron, lime, and magnesia, cannot, it is conceived, be liable to loss in any form.—*Way.*

SMALL HOLDINGS.—A small proprietor, who knows every part of his little territory, who views it with all the affection which property, especially small property, naturally inspires; and also, upon that account, takes pleasure not only in cultivating, but in adorning it, is generally of all improvers the most industrious, the most intelligent, and the most successful.—*Adam Smith.*

TO DESTROY INSECTS.—Trenching the ground in autumn, or early winter, is one of the best securities against most subterranean insects.

Ladies' Department.

FEMALE AMUSEMENTS OF THE PRESENT DAY.

WE are frequently pained to see drawing rooms and parlors filled with young ladies, for hours together, without any visible employment. They have run through an idle, unmeaning round of calls, or profligate, needless shopping in the early part of the day, and a *tea fight*, or *hop*, or a flirting match comes off at night, which consumes the remainder of the mis-spent day. Sad perversion of the intellect and bodies of what should be rational, intelligent, and useful beings.

We boast of advancement in manners, refinement of pursuits—we deem many of the fashions and habits of the present day as *retrogrades*, not advances; as approximating closely to the idleness, frivolity, and dissipation of savage life, rather than progress towards one of greater refinement and utility. The good old days of the hatchel, the cards, the spinning wheel, the loom and the bleaching tub, were vastly more consonant to the duties of wives and mothers, and the welfare of the human race, than the present ones of the piano, the guitar, the opera, the polka, and the waltz.

Let sensible women who have right notions of female manners and duties, take the matter in hand before it is too late, and correct the downward tendency of female (mis-called) accomplishments. Provide for the young women the large rim spinning wheel, by which they can dance off some of the buxom hilarity of youth; and for the older ones, or infirm, the smaller, buzzing, sedentary, pedal wheel and distaff, where they can compose and lull their matron sensibilities to the quiet realities of life. "And when the evening shades prevail," let the quiet knitting, with the old-fashioned sheath pinned upon the side, employ the busy fingers of all, as they are gathered round the cheerful fireside of the honest, prudent, and therefore, independent American farmer. Here, both brothers and beaux may learn a lesson of enjoyment, purity, and content, which they may look for in vain amid the saloons of the city, or even would-be-fashionable country life. What more is wanting for success and enjoyment on earth? What more favorable position for preparation for heaven?

EVA.

New York, December, 1848.

TO PREVENT THE UNPLEASANT EFFECTS OF LIMESTONE WATER.

IT is well known that in those regions of country where limestone abounds, the water is so strongly impregnated with it (making it too *hard* as it is called), as to render it unfit for washing, and many other domestic purposes, by curdling with the soap—encrusting boilers, &c. Where no other water is to be had, the disagreeable effects may be remedied in some degree, by the following means:—

For washing, the curdling of the soap in the water can be prevented, by boiling a bag of wood ashes in the kettle, which will not hurt the hands so much as ley made in the common way. For cooking, *saleratus*, in the proportion of about one small tea-spoonful to a gallon of water, will neutralize it sufficiently. For the toilette, its effects upon the skin are sometimes very distressing. I

have often known the hands of children as well as those of other people, so chapped by it as to crack open, and bleed. This may be prevented by washing with vinegar, after the hands, &c., have been wiped dry. E. S.

Eutawah, November, 1848.

TO REMOVE STOPPERS FROM DECANTERS.

With a brush and warm water and soap, clean around the stopper; wipe dry and let it grow cold: take the end of the stopper between the thumb and finger of one hand, while, with the other, you hold the neck of the bottle over the flame of a spirit lamp, and turn it round briskly for about a minute, or a longer or shorter time according to the thickness of the glass, and the size of the vessel. The heat will expand the glass of the bottle before it affects that of the stopper, which will come out, almost, with a touch. One that has been broken close off may be removed in this simple way.

E. S.

TO CURE CHILBLAINS, OR FROSTED FEET.

Mix, in a glass vial, a quarter of an ounce of pure muriatic acid, with two ounces of water. Wet a piece of sponge, or soft cloth, with the liquid, and gently bathe the parts that have been frozen. Let it dry on, and wrap the feet in bandages, or draw on a pair of old stockings to keep the bed linen from contact with the acid, which will drop into holes wherever it is touched by it. This speedily cools the inflammation, allays the intensely painful itching, and when the frost is not very deep, it cures by a few applications.

When the chilblains are of long standing, and the skin has cracked, or when sores are formed, the first two or three bathings are apt to cause a smarting pain that is somewhat discouraging to persons unacquainted with the virtues of this simple remedy; but if they will persevere, they will be rewarded by a complete cure. E. S.

HOARDING UP LINEN.—Amongst the old customs still in vogue in this country, that of hoarding up linen is one of the most inveterate. The following is a singular instance of this habit:—An old maid, 78 years of age, died recently at Tocqueville. This person, who possessed rather a large fortune, lived with extreme parsimony. Her only luxury, her only expenditure, was for linen, which she laid by in her closets. An inventory made after her death proves that in 14 closets she had, in reserve, more than 500 pairs of stockings, nearly 600 chemises, the enormous quantity of 100 dozens of napkins, 12 dozen sheets, an innumerable quantity of caps, handkerchiefs, &c.; and, lastly, linen cloth sufficient to provide for the wants of 500 persons. —*Brussels Herald.*

TO PREVENT A BRUISE FROM BECOMING DISCOLORED.—Blood can be prevented from settling in a bruise, by applying to the place, a cloth wrung out of very warm water, and renewing it until the pain ceases. The moisture and heat liquify the blood, and send it back to the proper channels, which by neglect, or the use of cold applications, would be coagulated, and fixed in green and black blotches directly under the skin. E. S.

Boys' Department.

AGRICULTURAL CHEMISTRY.—No. 9.

SOILS are divided and named according to their texture; that is, according to the ingredients of which they are composed. You are familiar with the terms *clay*, *sand*, and *gravel*, and know something of the character of the soil to which these names are applied; and you may have read of calcareous, argillaceous, and alluvial soils, without getting any very definite idea of their nature. The design of this letter will be to explain the general and chemical character of different soils, so that when you see or read of any of them hereafter you may know of what ingredients they are composed.

Sandy Soils.—You are well acquainted with the appearance of sand, and are aware that, where it exists in considerable abundance, it forms what is called a sandy soil. Grains of sand are composed mostly of silica (a substance described in my last letter), united with a small portion of alumina (which will be described presently), and oxide of iron (oxygen and iron). When sand is combined with lime, or clay, so as to form solid masses, it is called sandstone, a substance frequently used for building purposes, and for making millstones and grindstones. Sandy soils contain from 60 to 90 per cent. of sand.

Gravelly Soils.—These are so called from the quantity of gravel, or stony particles they contain, and have no distinguishing chemical property. Those in which limestone pebbles abound, are most profitable on account of their capacity for retaining vegetable matter and fertilizing ingredients longer than any other species of gravelly soil.

Clay or Argillaceous Soils.—Clay is a mixture of the earth called *alumina* with silica and oxide of iron. As alumina does not enter into the composition of any vegetable, I did not describe it among those ingredients of the soil which are absorbed by the roots of plants; but its presence in every soil, and the important office it performs in modifying their texture, are sufficient reasons why its nature should be well understood by the agricultural chemist. Alumina is composed of an elementary substance, or base, called aluminum, united with a portion of oxygen. It is one of the essential constituents of the salt called alum, from which its name is derived. I told you alumina was one of the earths. There are ten bodies which chemists designate as *earths*, all of them composed of metallic oxides, but only four of them, viz: alumina, silica, lime, and magnesia are of much importance. Alumina and silica are found most abundant in nature, and their union, when in contact with oxide of iron, and often potash, forms clay. The components of clay are not merely mingled together, as many suppose, but they are chemically combined, and can only be separated by chemical means. Clay does not seem to possess any of the features belonging to its ingredients separately, nor can these ingredients be united by any known chemical process so as to form true clay, such as nature produces. The three or four ingredients of which clay is composed, are united in various proportions, the silica usually being the most abundant. Sometimes 100 parts of clay contain over 90 parts of silica, with variable proportions of potash.

Calcareous Soils.—When lime predominates or

exceeds 20 per cent., the soil is called calcareous. When a clay soil contains much lime, it is called calcareous clay, and when lime abounds in a soil otherwise sandy, it forms calcareous sand.

Marly Soils.—These are also soils containing a large amount of lime, and sometimes, though not so much potash as those called calcareous. When the lime is over five, and under 20 per cent., it forms a marly soil. When sand and lime are the principal constituents, the soil is called a sandy marl; clay and lime abounding produce a clayey marl. Marl is often used to improve the texture of soils, and sometimes with much advantage. The presence of lime in any soil may be detected by testing it with muriatic (hydrochloric) acid. Effervescence takes place when lime is present.

Loamy Soils.—Loam is a term very indefinitely used among agriculturists, though always designating a good soil, and one containing considerable vegetable matter and clay. Professor Johnston calls those soils loamy which contain from 30 to 60 per cent. of sand, the rest being clay, lime, potash, and vegetable matter. A loam, where clay predominates, is called a clay loam, and one where sand is most abundant, a sandy loam.

Alluvial Soils.—These are formed by the washings and depositions of rivers, or streams. The ingredients of such soils are determined by the character of the soils through which the streams producing them have flowed. They are always rich and productive, because they contain much animal matter, and as they have been forming perhaps for ages, those ingredients to which they owe their fertility, extend to a great depth, forming an almost inexhaustible supply of nutritive matter for vegetation.

Peaty Soils.—Peat is formed by the decomposition and decay of vegetable matter in low and moist situations. The mud and various substances contained in the water, unite with the remains of mosses and such plants as grow in low grounds, and as the decay of the vegetable matter progresses, all of these substances become intermixed and amalgamate, until a black, compact, spongy mass is formed. This is peat, and where it abounds, it produces what is called a peaty soil. Peat bears a close resemblance to humus, or vegetable mold, which I will describe in my next letter. J. McKINSTRY.

Greenport, Columbia Co., Dec. 1st, 1848.

THE WAY DOMESTIC ANIMALS COLLECT THEIR FOOD.—The horse, when feeding on natural herbage, grasps the blades with his lips, by which it is conducted between the incisors, or front teeth. These he employs for the double purpose of holding and detaching the grass, the latter action being assisted by a twitch of the head. The ox uses the tongue to collect his food. That organ, being so directed as to encircle a small bundle of grass, which is placed by it between the incisor teeth, and an elastic pad opposite to them in the upper jaw—between these, the herbage is pressed and partly cut, its complete severance being effected by tearing. The sheep gathers his food in a similar manner as the horse, but is enabled to bring his cutting teeth much nearer to the roots of the plants, in consequence of the upper lip being partially cleft. For his upper lip is thin, and is susceptible of considerable mobility; while that of the ox is thick, hairless, with a very limited action.

FOREIGN AGRICULTURAL NEWS.

By the steamer Niagara we are in receipt of our foreign journals to 2d December.

MARKETS.—*Ashes*, a good inquiry. *Cotton*, an advance from one $\frac{1}{4}$ d. to $\frac{1}{2}$ d., with an active demand. *Flour and Grain*, dull, with a slight fall in prices. *Provisions* the same. *Hemp*, an advance, and light stock on hand. *Wool*, the demand for foreign continues rather brisk, and the opinion gains ground that the lowest point has been passed. The reports of the public sales in London are more favorable, and prices are considered rather higher than the former sales. In other articles no change.

Money continues very abundant.

American Stocks, a steady demand, principally on account of the continent.

Lock Jaw.—This hitherto fatal disease in animals has recently been cured by a new operation, whereby the animal obtains instantaneous relief. The muscles which were considered to be extensors are now found to be flexors. This important discovery was made by a person named Webb, of Balsham, Cambridgeshire, who has been operating upon a mare belonging to Mr. Adcock, of Linton, which is now well, and going to work.

Great Loss of Sheep at Van Dieman's Land.—The fatal effects of the catarrh in the sheep at Port Philip, is stated to have been dreadful in the extreme. One gentleman has lost 20,000, and other proprietors from 10,000 to 15,000 each.

Cattle Gauge.—This simple little sliding scale enables the person using it to ascertain the carcass weight of oxen, sheep, and swine, by means of a slide fixed in a rule, the gauge point applicable to the case being set to the length, then to the girth, gives the carcass weight in stones of 14lbs. avoirdupois. Several cases are given in illustration of its correctness.—*English Paper.*

India Wheat.—The Royal Agricultural Society of England have received, through Dr. Royle, a supply of varieties of wheat from India, with a request that a trial may be made of their cultivation in Great Britain.

Lusus Natura.—Mr. Attwater, of Bodenham, near this city, has a mare which had been some time grazing in the New Forest, and which some five or six months ago, gave birth to an animal half deer and half horse! Its head resembles that of deer; its legs are slender, but its hoofs are divided; the mane is very curious, and almost baffles description; the color is a bright fawn; the hind quarters are like that of a horse, but the tail is of the deer tribe. The animal, on the whole, is one of great curiosity, and one that chews the cud.—*Sherbourn Journal.*

The Agricultural Products of France.—The waste lands of France, in 1826, were one twelfth part of the whole surface, or ten millions of acres. They have been reduced to near five millions of acres, by the steady improvement in agricultural operations. The arable land in that year was equal to fifty-seven millions of acres. It has been increased by the recovery of waste lands and by encroachments upon the forests to near seventy millions of acres. The products of the soil, in the years 1826 and 1847, as exhibited in the following table, show a steady advancement in agricultural industry.

Products.	1826.	1847.
Wheat,	166,400,000	250,500,000
Rye,	101,600,000	162,000,000
Maslin,	83,200,000	127,300,000
Indian Corn,	17,280,000	33,400,000
Buckwheat,	23,200,000	32,200,000
Oats,	88,000,000	155,230,000
Potatoes,	23,200,000	41,700,000

Railways and Agriculture.—It can only be by this process that agriculture can be improved, and rise to the level of the mechanical arts—that coal can be made a cheap article on farms, and steam labor be introduced. The lead once given in this direction, it will not be long ere portable railways will be devised for farm use, capable of being shifted from field to field, and the mixture of soils will then become a practical operation at a trifling expense. Railways are not in excess. They can scarcely ever be in excess. As well say streets are in excess. Cost of railways may be in excess, but there has never yet been a railway made that will not attract population to its borders, when the interests of the railway owners and land proprietors shall be one and the same. Inferior land bordering on a railway is far more valuable than the richest at a distance. Given, the rails, all else can be made to follow.—*English Paper.*

India Rubber Shoes a Century Ago.—"La Monarchia Indiana," printed at Madrid, in 1723, we find a chapter devoted to "very profitable trees in New Spain, from which there distil various liquors and resins." Among them is described a tree called *ulqua-hill*, which the natives cut with a hatchet, to obtain the white, thick, and adhesive milk. This, when coagulated, they made into balls, called *ulli*, which rebounded very high when struck to the ground, and were used in various games. It was also made into shoes and sandals. The author continues:—"Our people (the Spaniards), make use of their *ulli* to varnish their cloaks, made of hempen cloth, for wet weather, which are good to resist water, but not against the sun, by whose heat and rays the *ulli* is dissolved." India rubber is not known in Mexico at the present day by any other name than that of *ulli*. And the oiled silk covering of hats very generally worn throughout the country by travellers is always called *ulli*.

Good Effects of Guano on Wheat.—A correspondent in the Agricultural Gazette, states that in the spring of 1845, one sixth of an acre of three different descriptions of wheat was dressed with guano, on a damp morning, at the rate of two cwt. per acre. At harvest they were each carried to separate barns, with the produce of a like portion of the fields to which no guano had been applied.

White Rough Chaff.

	Produce per acre,	bsh.	pk.	qt.
Guano,	21	1	4
Nothing,	18	1	4

Increase, 3 0 0

And 17 trusses of straw.

Red Spalding.

Guano, . . . . .	. . . . .	24	2	0
Nothing, . . . . .	. . . . .	18	3	2

Increase, 5 6 5

And 17 trusses of straw.

Essex Red.

Guano, . . . . .	. . . . .	36	2	5
Nothing, . . . . .	. . . . .	32	0	2

Increase, 4 2 3

And 15 trusses of straw.

Agricultural College at Cirencester.—We are glad to hear the Royal Agricultural College at Cirencester is in a very prosperous condition, and that the power of nominating students, which is vested in the shareholders, is likely to become a valuable privilege. The opportunity which it affords of acquiring sound agricultural and scientific education, on a farm now getting into a high state of cultivation, is perhaps superior to any other of the kind in this country.—*Worcester Chronicle.*

Editor's Table.

TO SUBSCRIBERS.—Those who receive this number of our paper, and do not wish to continue as subscribers, will please to return it *with its envelope, and un-mutilated*, so that the publisher may know the post office to which it is sent; he will then stop it. Direct on a new wrapper, outside, to American Agriculturist, 121 Fulton street, New York. Please *not to write* on the number, as that mutilates and destroys it for any other purpose than *wrapping paper*. Subscribers will do us the favor to pay particular attention to these remarks.

R. L. ALLEN having, to some extent, been more or less connected with the editorial columns of the American Agriculturist since its commencement, will hereafter act as associate editor with A. B. Allen. We hope this arrangement will prove satisfactory to our readers, and be an additional reason for them to favor the Agriculturist with a renewal of their subscriptions.

GIVE CREDIT.—In copying articles from our periodical, exchange papers will oblige us by always giving due credit to the Agriculturist. The production of our articles cost us much time and money, and when transferred to other papers, it is merely an act of simple justice to give us the credit of them. "Render unto Cæsar the things that are Cæsar's."

CHANGING THE BEARING YEAR OF APPLE TREES.—Mr. Manning, of Salem, Mass., by cutting off all the blossom buds from a Baldwin apple tree, in the spring of the bearing year, prolonged the time of bearing until the following season, and thus changed the unfruitful year to one of bearing, and *vice versâ*.

ADDRESS OF JOHN DELAFIELD, Esq.—We acknowledge the receipt of a Penn-Yan paper, containing this address, delivered before the Yates County Agricultural Society, at their late annual meeting on the 29th of September, and we pronounce it one of the best things of the kind we ever read. Surely to such men as Mr. Delafield, our country is largely indebted, and cannot but make progress in agricultural improvement from their example.

EUROPEAN AGRICULTURE and Rural Economy. From personal observation. By Henry Colman. Vol. II., Parts ix. and x. Boston: Arthur D. Phelps. London: John Petherham. For sale by C. M. Saxton, 121 Fulton street, New York. All the preceding numbers of Mr. Colman's work, have been devoted to the agriculture of Great Britain and Ireland; these now before us, treat of that of France, Belgium, Holland, and Switzerland. We have as yet only had time for a cursory perusal of these last numbers; but hope to give a more extended notice, with extracts, hereafter. We think the present numbers the most interesting and useful to American farmers, as the productions and climate of the countries of which he now speaks, most nearly approaches our own. This number completes the series contemplated by Mr. Colman. He has recently returned to his native country, where we are sure he will find a cordial and deserved welcome from his family and numerous friends, from whom he has been so long separated. We shall be mistaken if Mr. Colman does not soon favor the public with other valuable matter, collected during his travels abroad.

ICE.—The intrinsic value of ice, like that of metals, depends on the investigation of an essayer. That is to say, a cubic foot Lower-Canada ice is much colder than a cubic foot of Upper-Canada ice, which contains more cold than a foot of Wenham ice. Again, the Wenham or Boston ice contains much more cold than a cubic foot of Cincinnati ice; and thus, although each of these four cubic feet of ice has precise-

ly the same shape, they each, as summer approaches, diminish in value; that is to say, they each gradually lose a portion of their cold, until, long before the Lower-Canada ice has melted, the Cincinnati ice has been converted into warm water.

THE ICE TRADE.—The entire statistics of the ice trade are highly interesting, not only as evidence of the magnitude it has assumed as an item of commerce, but as showing the indefatigable enterprise of the man Yankee. There is scarcely a nook or corner of the civilized world where ice has not become an essential, if not common article of trade.

The ice trade, but a few years ago a novelty and experiment in the way of commerce, is exclusively a Yankee idea. Ice has become an important and staple item in commerce. The first cargo ever taken from the United States, was shipped from Boston, in 1505, by Frederick Tudor, a gentleman who had previously despatched agents to the West Indies for information touching the enterprise.

Up to 1832, the business was confined to the enterprise of this one individual. At that period, others embarked extensively in it, and in 1833, Tudor extended his operations to Calcutta, Madras, and Bombay. The shipment of ice from Boston in the year 1847, coastwise, amounted to 51,887 tons, making 158 cargoes; shipped to foreign ports, 22,591, making 95 cargoes. The freight, storage, and other expenses on the whole, amounted to \$335,151. In the same year, 29 cargoes of provisions, fruits and vegetables, valued at \$72,500 cost, were shipped in ice from the United States, to ports where such articles could not otherwise be sent.

Eight ice houses, in Massachusetts, erected purposely for the trade, are capable of containing 141,332 tons. The consumption of ice in Boston alone, in 1847, was 27,000 tons, employing 66 wagons in the delivery. In Havana, ice sells for 6½ cents per pound, in Calcutta at 2½ cents, in Boston at 13½ cents per one hundred pounds, on the average, and in New York 25 cents for one hundred pounds.

AGRICULTURAL SKETCHES OF BLACK ROCK AND BUFFALO.—The following is a statement of the number of tons of agricultural products coming from other states, by the way of Buffalo and Black Rock, during the last twelve years:—

Year.	Products of the forest.	Products of animals.	Vegetable food.	Other agric'l products
1836...	3,755	1,593	23,207	1,961
1837...	7,104	4,083	29,229	884
1838...	4,615	3,282	55,907	379
1839...	22,835	4,219	70,284	361
1840...	18,133	5,592	111,533	688
1841...	35,126	14,877	188,036	1,480
1842...	26,329	13,590	45,096	1,642
1843...	31,211	16,400	166,327	2,521
1844...	52,061	17,470	165,761	1,757
1845...	72,674	14,963	137,379	1,587
1846...	61,957	23,899	295,970	2,393
1847...	85,539	26,567	532,676	2,996
	421,238	146,535	1,882,405	18,649

In making the above statement, it was assumed that all the flour, wheat, bran, and ship stuffs, cleared at Black Rock, came from other states.

DANDIES FOR SCARECROWS.—It is said that everything was placed on earth for some wise purpose, but what under heaven these bipedal nomenclatures were put here for, has always been a mystery to us, and one which we could never solve. To be sure, the things keep a large quantity of bread from moulding, and patronize the tailors extensively on the endless credit system. And then, too, they make very good dolls for soft-pated young women; but what else are they fit for? They have never, as yet, been known to be of any essential service to mankind, neither will they ever be, until they are stuck up in some farmer's cornfield for scarecrows.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, DECEMBER 16, 1848.

ASHES, Pots,.....	per 100 lbs.	\$6 00	to	\$6 12
Pearls,.....	do.	6 25	"	6 31
BALE ROPE,.....	lb.	6	"	8
BARK, Quercitron,.....	ton,	25 00	"	28 00
BEANS, White,.....	bush.	75	"	1 25
BEESEWAX, Am. Yellow,.....	lb.	19	"	22
BOLT ROPE,.....	do.	11	"	12 1/2
BONES, ground,.....	bush.	45	"	55
BRISTLES, American,.....	lb.	25	"	65
BUTTER, Table,.....	do.	15	"	25
Shipping,.....	do.	9	"	15
CANDLES, Mould, Tallow,.....	do.	11	"	13
Sperm,.....	do.	25	"	38
Stearic,.....	do.	20	"	25
CHEESE,.....	do.	5	"	10
COAL, Anthracite,.....	2,000 lbs.	4 50	"	5 50
CORDAGE, American,.....	lb.	10	"	12
COTTON,.....	do.	5	"	9
COTTON BAGGING, Amer. hemp,.....	yard,	15	"	16
FEATHERS,.....	lb.	30	"	40
FLAX, American,.....	do.	8	"	9
FLOUR, Northern, Southern and West'n bbl.	do.	6 25	"	5 87
Fancy,.....	do.	6 00	"	6 50
Richmond City Mills,.....	do.	7 00	"	7 25
Buckwheat,.....	do.	—	"	—
Rye,.....	do.	3 12	"	3 25
GRAIN—Wheat, Western,.....	bush.	1 10	"	1 31
Red and Mixed,.....	do.	95	"	1 10
Rye,.....	do.	62	"	63
Corn, Northern,.....	do.	65	"	71
Southern,.....	do.	65	"	70
Barley,.....	do.	62	"	65
Oats,.....	do.	27	"	36
GUANO, Peruvian,.....	2,000 lbs.	50 00	"	50 00
Patagonian,.....	do.	35 00	"	40 00
HAY, in bales,.....	do.	45	"	50
HEMP, Russia, clean,.....	ton.	195 00	"	200 00
American, water-rotted,.....	do.	160 00	"	220 00
American, dew-rotted,.....	do.	140 00	"	200 00
HIDES, Dry Southern,.....	do.	6	"	7
HOPS,.....	lb.	4	"	12
HORNS,.....	100.	2 00	"	10 00
LEAD, pig,.....	do.	4 25	"	4 31
Pipes for Pumps, &c.....	lb.	5	"	7
MEAL, Corn,.....	bbl.	2 75	"	3 00
Corn,.....	hhd.	12 50	"	13 00
MOLASSES, New Orleans,.....	gal.	22	"	28
MUSTARD, American,.....	lb.	16	"	31
NAVAL STORES—Tar,.....	bbl.	2 00	"	2 25
Pitch,.....	do.	1 25	"	1 75
Rosin,.....	do.	1 25	"	1 37
Turpentine,.....	do.	2 50	"	3 00
Spirits Turpentine, Southern,.....	gal.	35	"	36
OIL, Linseed, American,.....	do.	49	"	50
Castor,.....	do.	1 25	"	1 50
Lard,.....	do.	65	"	70
OIL CAKE,.....	100 lbs.	1 00	"	1 15
PEAS, Field,.....	bush.	75	"	1 25
Black eyed,.....	2 do.	1 25	"	1 50
PLASTER OF PARIS,.....	ton.	2 25	"	3 00
Ground, in bbls,.....	of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,.....	bbl.	9 00	"	13 50
Prime,.....	do.	5 00	"	7 50
Smoked,.....	do.	6	"	12
Rounds, in pickle,.....	do.	4	"	6
Pork, Mess,.....	bbl.	11 00	"	16 00
Prime,.....	do.	7 00	"	10 00
Lard,.....	lb.	7	"	8
Bacon sides, Smoked,.....	do.	3	"	4 1/2
In pickle,.....	do.	3	"	4
Hams, Smoked,.....	do.	5	"	9
Pickled,.....	do.	4	"	7
Shoulders, Smoked,.....	do.	4	"	5
Pickled,.....	do.	3	"	4
RICE,.....	100 lbs.	3 00	"	4 00
SALT,.....	sack,	1 25	"	1 45
Common,.....	bush.	20	"	35
SEEDS—Clover,.....	lb.	5	"	7
Timothy,.....	bush.	2 00	"	3 50
Flax, clean,.....	do.	1 30	"	1 40
rough,.....	do.	1 20	"	1 22
SODA, Ash, con'g 80 per cent. soda,.....	lb.	3	"	—
Sulphate Soda, ground,.....	do.	1	"	—
SUGAR, New Orleans,.....	do.	4	"	6
SUMAC, American,.....	ton,	35 00	"	37 00
TALLOW,.....	lb.	8	"	9
TOBACCO,.....	do.	2 1/2	"	7
WHISKEY, American,.....	gal.	23	"	25
WOOLS, Saxony,.....	lb.	35	"	60
Merino,.....	do.	25	"	35
Half blood,.....	do.	20	"	25
Common do,.....	do.	18	"	20

REMARKS.—No changes in the market of sufficient importance to demand notice. Everything is abundant, at good prices, and the general opinion is, that we have a prosperous career before us for several years to come. The gold of California seems all the rage just now; but we trust the farmers of the United States will not be tempted away from their legitimate business to go there to dig for it. Let them recollect that there is plenty of good gold at all times to be had at home for the products of agriculture; then let them continue to strive to increase and perfect these; but, above all, let them study to improve their minds and hearts. In these should be found their contentment and happiness.

TO CORRESPONDENTS.—Communications have been received from M. W. Phillips, E. S., Solon Robinson, James E. Cornell, Sergeant Teltrue, Samuel Allen, and Reviewer.

ACKNOWLEDGMENTS.—The New-Brunswick Courier, containing the Annual Report of the St. John Agricultural Society; from R. Sands Tucker, the Sixth and Seventh Annual Reports and Transactions of the Royal Society for the Promotion and Improvement of the Growth of Flax in Ireland; Reports of the First Exhibition of the Worcester County Mechanic's Association, at the Nashua Hall, in the County of Worcester, Massachusetts, September, 1848; from Messrs. Gold, a Catalogue of the Cream-Hill Agricultural School at West Cornwall, Ct.

PROSPECTUS OF

MINER'S AMERICAN BEE-KEEPER'S MANUAL.

TO be issued during the month of March next. Price \$1—*duodecimo*—250 pages—from 20 to 30 engravings illustrating every kind of hive worthy of notice. This work will be printed on the *finest paper*, and bound in the most *substantial style*; and it will embrace every subject pertaining to the *Natural History, Domestic Economy, and Practical Management* of bees that is deemed of interest to the American bee keeper; and in a style entirely original. The usual *re-hash* (of the small essays of such writers of this country, as have published their works), from foreign treatises, on the honey bee, in this work, is *wholly discarded*; and its pages will be filled with the exemplification, and illustration of the subject, founded on the *practical experience and demonstration* of the Author.

The rules laid down for, and the illustrations of, the *Practical Management* of bees, especially adapted to the *United States*, will be more full and comprehensive, and of more *real intrinsic value* to the apiarian, than the comments and discussions of every writer on this subject, either in this country or Europe united! This may appear as vain and egotistical; yet it is a fact, that not a solitary work on this subject, in any part of the world, has ever given such plain and well-defined instructions to the apiarian, as to throw off the mantle of obscurity hanging over this important subject. The author of this work feels competent to raise this mantle, and to give such plain, intelligible rules, for the *management* of bees, that one who never kept this profitable insect, may from this work alone, proceed with the culture of bees, in the most successful manner; and fully understand the subject, from the very beginning.

That this work will be the most valuable treatise of the age, to the American bee keeper, who looks to *profit*, before *amusement*, the author feels fully assured. To this conclusion he has arrived, from a full knowledge of the merits, and demerits of almost every work extant in the English language, and from the great popularity of his brief, and hastily-composed writings, on this subject, already published; which bear no kind of comparison to the work now to be issued.

N.B.—All Editors inserting the above conspicuously, including this notice, and sending such notice, directed "*American Agriculturist*," 121 Fulton St., New York, shall be entitled to a copy, to be sent by *mail*, or otherwise.

C. M. SAXTON, *Publisher.*

AMERICAN INDESTRUCTIBLE MINERAL PAINT.

RECENTLY discovered in Ohio, a most admirable and effective preservative from the effects of the weather, and preventive of *fire*, becoming in a short time of the consistence and qualities of slate itself. For Manufactories, Railroad Depots, Roofs of all descriptions, and Public Buildings, it is invaluable. For an account of this paint, see p. 11, of the present number. For sale by the hundred, barrel, or ton, by WM. H. STARR, general agent for the proprietor, No. 67 Beekman Street, New York. j3t

POUDRETTE.

POUDRETTE of the Lodi Manufacturing Company for sale at the usual prices, \$1.50 per barrel, for any quantity over seven barrels. It is now on hand, and orders are requested *early*. Apply, if by letter post paid to the office of the Company, 51 Liberty street, New York. jlt

PERUVIAN GUANO

FOR Sale, at Bating Hollow, Long Island, by AZEL DOWNS. j3t

ALBANY AGRICULTURAL WAREHOUSE AND SEED STORE.

Removed from stand No. 10 and 12 Green street, to the spacious New Store No. 369 Broadway, a few doors South of the Post Office, Albany, N. Y.

THE subscriber being a sufferer from fire, in common with a large portion of the citizens of Albany (having lost his store and stock on the morning of the 29th of October last), has secured for a term of years the new and extensive store, No. 369 Broadway, or old Market street, a few doors south from the Post Office. This store being 145 feet deep, and four stories high, is much larger than his former one, and running through from Broadway to the Canal basin—Broadway being the principal thoroughfare in the city, between the boat landings and depôts, the location is readily found. These advantages, with the increased facilities, will enable him to transact many times the business heretofore done by him, and more convenient for the trade generally.

In connection with these changes, he is erecting an extensive manufactory in the central part of the city, sufficiently large to accommodate over 100 mechanics, and a proportionate amount of labor-saving machinery, which will enable him at all times to execute all orders with despatch. And he solicits the continuance of that very liberal patronage heretofore bestowed upon his establishment.

H. L. EMERY. N. B. It is his intention to establish branches at Rochester and Buffalo the coming spring, each to be under the charge of experienced brothers of the subscriber.

BOOKS ON AGRICULTURE, &c., &c.

For sale at the Office of the American Agriculturist.

- AMERICAN Farmer's Encyclopedia. \$3, in leather.
- American Shepherd, by Morrell. \$1.
- American Agriculturist, by Allen. \$1.
- American Poulterer's Companion, by Bement. \$1.
- American Veterinarian, by Cole. 50 cents.
- Buist's Kitchen Gardener. 75 cents.
- Buist's Farmer's Companion. 75 cents.
- Chapin's Agricultural Chemistry. 50 cents.
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ANNUAL MEETING OF THE NEW YORK STATE AGRICULTURAL SOCIETY.

THE Annual Meeting of this Society will be held at Albany, on the third Wednesday (17th) of January, 1849. Premiums will be awarded on Grain and Root Crops, Butter, Cheese, Fruits, &c. Statements should be furnished the Secretary early in January.

It is desired that there should be a full representation from County Societies, as well as of the friends of agriculture generally.

A Pomological Exhibition will be held at the rooms of the Society, and growers of fruit are respectfully requested to forward specimens to the secretary as early, if practicable, as the 15th of January.

Nov. 1st, 1848.

B. P. JOHNSON, Secretary. n3t

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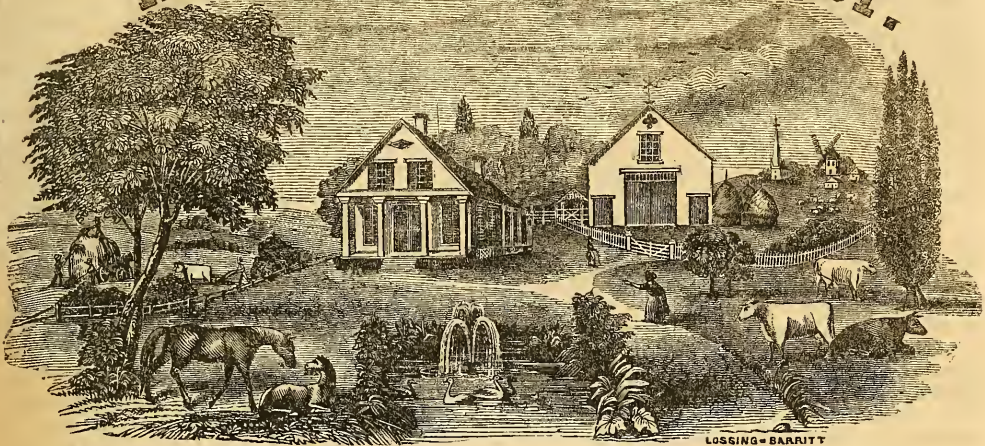
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Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

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NO. II.

MESSRS. ALLEN, EDITORS.

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WORK FOR FEBRUARY, NORTH AND WEST.

Fencing Stuff, Gates, &c.—If not already done, cut and haul all the fencing stuff you require, mortice and shape the posts, split and point the rails, in readiness to put up as soon as the season will admit. See that substantial gates are made and properly hung at the entrance of every field or yard.

on your farm. Cut and pile your summer fuel, if not done before.

Repair of Buildings.—Carefully examine your barns, stables, and other out-buildings as well as your own dwelling, and see that all necessary repairs are promptly made. Cover them, if necessary, with Mr. Boyle's "cheap paint," as detailed at p. 225 of our seventh volume; or perhaps, what would be still better, the "American Indestructible Mineral Paint," described at p. 11, of the present volume. If neither of these is not sufficiently economical, a coat of good whitewash may be put on instead.

Tools, Implements, &c.—Thoroughly overhaul all the implements, tools, and machines on your farm, and put them in good repair, discarding all bad ones, and supplying their places with those that are of the best quality and new.

Maple Sugar.—Prepare for making maple sugar, which should be commenced the latter part of this month, or early in March. See that your sap buckets or troughs are tight and clean, and if you have not enough for the work you have to perform, supply the deficiency by new ones. Put your boilers in order, and arrange them in a manner that will economize in fuel. In tapping your trees, do not make the holes too large nor too deep; neither is it best to tap the trees very far from the roots. Yet the higher the holes are bored above the ground, the more saccharine the juice, and the shorter-lived the trees.

Dressing Flax and Hemp.—If you have flax or hemp to break and dress, it should be done this month, for in March you will have plenty of other work to do.

Care and Management of Stock.—Continue well to look after your stock. This and the next following, are the trying months for animals, and if well carried through these, you may safely trust them afterwards. Those accustomed to green food a great part of the year, and are now kept upon that which is dry, should have their condition carefully observed. Roots should be provided, more or less, as a change; such as potatoes, turnips, ruta-bagas, mangold wurtzel, beets, carrots, parsnips, &c. Chaff, with corn-cob and Indian meal, may also occasionally be given. Do not allow them to take their drink too cold nor when over-heated with exercise or work. Let them also be carded, brushed, curried, or wiped down with straw, at least once in twenty-four hours. Working animals should invariably have grain, which may be given with chopped hay, or otherwise, and should be fed and watered at regular hours, three times a day. All pregnant animals should have a dry, warm shelter, well littered, and have plenty of nutritious food, but should not be made too fat. If near their time, they should be allowed to remain loose, unmolested, in separate stalls, or pens, and should be aided, when necessary, in giving birth to their young. Swine should have constant access to water, sulphur, salt, charcoal, and wood ashes, in order to thrive. Breeding-in-and-in should not be practised beyond two or three generations, unless the families from which the males and females have descended are very distantly related.

Poultry.—Provide your hens with warm, comfortable houses and convenient poles to roost upon;

and if you wish them to lay well, keep their apartments and nests clean. Allow them to have constantly before them plenty of gravel, broken clam or oyster shells, as well as a heap of wood or coal ashes, brick dust, and finely-pounded old mortar, or lime, to pulverize, or dust themselves in. Give them water, boiled mashed potatoes, mixed with Indian meal, and a little fresh meat of some kinds, finely chopped; also grain and the tender refuse leaves of celery, cabbage, &c., and there will be no want of eggs. Turkeys, ducks, and geese should be provided with suitable shelters and pens for laying. They should be daily fed with mashed potatoes, chopped turnips, or cabbage leaves, mixed with Indian meal, and every few days with a small quantity of oats, buckwheat, or Indian corn.

Manures.—Take proper care of your stable manure, and see that it is not thrown out of a "hole in the wall," there to lie, and mix with snow, as well as to have all the virtue washed out of it, not only by the rain, but by the drippings of the roof. Erect some kind of a shed over your manure heaps, if it is nothing more than a rude covering made of posts set in the ground, with a roof formed of poles, slabs, thatched with spruce boughs or straw. If you have marl, or muck, in your vicinity, that can be dug at this season without exposure to wet, cart, or sled it into your yard, or fields, in order that it may be tempered by the genial influences of the frost.

Kitchen Garden.—Sow early cucumbers in hot-beds, which, if well managed, will produce in April. Celery may be sown in a warm border, and will be ready to vegetate the first mild weather. The directions for last month will apply equally well to this.

Fruit Garden and Orchard.—Fruit trees that grow too luxuriantly, and do not bear well, may now be pruned at the roots. Cut away the wood in grapevines which has borne fruit the preceding year, and leave the young wood to bear the ensuing season. If the pruning of vines be left until the sap begins to rise, they will bleed profusely, and, if weak and sickly, they will suffer much injury. Procure grafts and cuttings, and cover them with earth until required for use. Scions may be cut during this month and the next, for grafting; and carefully laid away in a cool place, packed in sand, moss, or clay, till required for use.

Flower Garden and Pleasure Grounds.—Finish pruning hardy early-flowering shrubs, by cutting off all dead wood, and straggling or interfering branches, close to the stem or limbs. Keep the gravel walks neat and clean, and roll them after the winter frost.

WORK FOR FEBRUARY, SOUTH.

Grinding and Management of Sugar Cane.—If you have not completed your cane harvest, finish it according to the directions given in January.

As soon as the black frosts are over, which usually occurs by the last of this month, and the ground becomes sufficiently dry, the covering of the cane that was planted in autumn, or early winter, should be reduced to one or two inches, by scraping, with hoes, the earth from the top of the drills, towards the centres of the spaces between the rows. After this, the hoes followed by the

plows, should be passed through the fields about once in ten days, in order to keep down the grass and weeds. Should the season be so backward as to prevent you from finishing the planting of your cane, it may be done at the close of this month. But do not cover it at a depth exceeding two inches.

Preparation and Plowing Cotton Lands.—Employ your hands in cutting up and rolling logs—knocking down cotton stalks with a stick, when not too large—firing log heaps, and burning stumps and brush, clearing up hollows, &c., and be in readiness to commence plowing your cotton fields, as soon as the season will admit. By the latter end of the month, if the weather be favorable, and the ground in proper condition, keep as many plows running as may be convenient.

Sowing Tobacco Seed.—If not done before, prepare your ground and sow your tobacco seed, as directed last month.

Feeding Cows, &c.—Give your cows boiled cotton seed, with a little corn-cob or Indian meal added. This will give the butter a rich flavor, and a fine color. The seed must be well cooked, which will require but a few minutes. As most of the directions for the management of stock given in the work for the north and west, this month, will apply to the south, it is unnecessary to repeat them here.

Kitchen Garden.—Plant seeds of vegetables, as recommended for January, according to the climate and latitude of the place. Also cucumbers, Lima beans, bunch beans, squashes, muskmelons, water melons, pumpkins, Indian corn, beets, leeks, celery, and okra. Plant aromatic and pot herbs; also, at a distance from varieties of the same family, carrots, parsnips, and turnips, intended to produce seeds.

Fruit Garden, Shrubbery, &c.—Graft fruit and other trees. Plant cuttings of grapevines, roses, quince, fig, pomegranate, and the various kinds of fruits and ornamental shrubs. Plant Osage-orange seeds for hedges, as recommended at p. 105, vol. vii., of the *Agriculturist*.

THE RUST IN WHEAT.

THE following remarks from the Annual Report of the St. John (N. B.) Agricultural Society, as to one of the causes of rust in wheat, are thrown out rather as a supposition than an opinion, with the view of exciting inquiry.

The oat draws nutriment from the earth by side roots, which spread over the ground. The wheat plant has similar rootlets; but in addition thereto, when about to head, sends down a tap root into the earth, for the purpose, it may be presumed, of procuring that additional nutriment which its large, rich ear requires; and this tap root has been known to go down to the depth of four feet. We may observe, that up to the time of sending down the tap root, the wheat is the hardiest and thriftiest of all the cereals, but afterwards, the most liable to disease. This delicacy is accounted for, when we consider that land is generally undrained—that not more than a few inches of soil get the benefit of sun, air, and manure, and that, therefore, the root must encounter, in its downward travel, nothing but disappointment. It comes in contact with the cold clay, or a sour, wet subsoil, turns back in despair,

and dies. In accordance with the laws of nature, insects, or rust, which is itself a fungus, or vegetable insect, come to finish the work of devastation on the dying plant. The forlorn farmer rails at the climate, and cries out that his wheat is killed by rust, while, in fact, it has died from starvation—from the want of that food, which, as a provident husbandman, it was his duty to have provided for it.

ADULTERATION OF FOOD.—No. 8.

Black Pepper.—This substance, also, is often subject to adulteration, the nature of the materials usually employed for the purpose, merely subduing its strength, and generally are not injurious to health. Such a course, however, is much to be condemned, so in every species of fraud.

The falsification of pepper is not confined to its ground, or pulverulent state; for fraud has taken up a higher position as regards this condiment, than even any other. Factitious pepper corns, it is stated, are made and sold, sometimes alone, and in other cases mixed with those that are genuine, from which, indeed, by their outward appearance, they can scarcely be distinguished. They are made of linseed oil cake, and mustard, with a considerable quantity of clay, and a little Cayenne pepper as a flavoring matter. This fraud, however, is easily detected, as the genuine pepper corns suffer no change when immersed in water, whereas, the counterfeit article, treated in the same manner, falls to pieces.

When purchased in a state of powder, pepper is almost always adulterated by the admixture of substances sold for the express purpose. It is often mixed with the pulverized husks of black mustard obtained at the mustard mill, as well as with the sweepings of pepper houses, which are bought under the name of P. D., or pepper dust. Earthy matters are also often mixed with pepper powder to increase its weight. The faded leaves of autumn and common rice are sometimes finely powdered and mixed with pepper to impart a paler color, in order to suit the taste of the public. In fact, it has been ascertained that the ordinary ground pepper of the shops does not contain more than $\frac{1}{4}$ th of genuine pepper, or 2 oz. in the pound.

Cayenne Pepper.—Genuine Cayenne pepper consists of the pods of a variety of capsicum ground together with equal parts, by weight, of common dry salt; but is often subject to a very deleterious fraud. When exposed to light for any considerable length of time, it always loses the fine bright red color it at first possesses, and therefore becomes deteriorated in the eyes of the purchaser. In order to prevent this, a quantity of red lead is added, which not only causes it to keep its color for a greater length of time, but also adds to its weight, and consequently, to the profit of the vender.

The Cayenne of the shops is commonly a spurious article made by grinding a mixture of any of the reddish woods, or sawdust, with sufficient capsicum pods to give it flavor.

Ginger.—This substance, when purchased in a ground or powdered state, is almost always adulterated, in this country, with Indian meal.

Mustard.—The substances employed in the adulteration of this condiment, it is believed, are not

generally injurious to health, having only a tendency to weaken the pungency, or strength of the material. For this purpose, Indian meal, wheaten flour, bean meal, and linseed cake, ground very fine, with tumeric powder as a coloring matter, are frequently used. The mineral substances employed are yellow ochre, and it is said chromate of lead, in small quantities, in order to give a bright yellow to the mustard that has had much colored vegetable matter, as linseed meal, added to it.

The powdered mustard of the shops is most frequently adulterated with wheat flour. When this is the case, it does not readily make a smooth paste with water, but exhibits considerable toughness, and a somewhat stringy appearance. The proportions commonly employed by some grocers are—common dry salt, wheaten flour, and superfine mustard, equal parts, colored with tumeric, and sharpened with Cayenne pepper.

THE COW—HER DISEASES AND MANAGEMENT— NO. 9.

Grain Sick.—This disease is caused by improper feeding, in allowing the animal too great a quantity of grain at one time, particularly those which have been subject to the process of distillation.

The first symptoms are a dull, heavy appearance of the eyes of the animal; she frequently shifts about from one side to the other, and when she is let loose and driven about, she complains or grunts more or less. On examination, a fullness may be perceived between the hip and ribs, on the opposite side to the milking one, if pressed down with the hand. This fullness is produced by the extension of the stomach.

Bleeding and purging are believed to be the only remedy; the first to relieve the urgent symptoms—the second to remove the cause of the disease. The quantity of blood to be taken away may vary from three to five pints; after which, the following purging drink may be given, milk warm, at one dose, in two quarts of water gruel, and half a pint of molasses:—

Sulphur, from 9 oz. to 1 lb.; grains of Paradise (cardamoms), 3 drachms; saltpetre, $1\frac{1}{2}$ oz.; tumeric, $\frac{1}{2}$ oz.; cummin seed, $\frac{1}{2}$ oz.

When it has fully operated in unloading the stomach, the weakness of the organ, the loss of appetite that ensues, and the deficiency of milk connected with it, will be repaired by medicines of an aromatic and bracing nature; like the following prescription:—

Gentian, cummin, coriander, valerian, and anise seed, each, $\frac{1}{2}$ oz.; grains of Paradise, $\frac{1}{2}$ oz.; flour of sulphur, $1\frac{1}{2}$ oz.

To be mixed, and given at one dose, in a quart of mild ale or beer, after having previously boiled it with a handful of chopped rue. This should be given when warm, and repeated once a-day, or every other day, till recovery takes place, which usually happens in a few days.

The regimen should consist of diluent liquors and mash for some days after; and grains are entirely to be given up till the stomach gains its former strength and tone. They are then to be given with caution in order that no relapse may ensue.

Losing of the Cud.—This malady arises from a

relaxed state of the bowels, and the accumulation of food in the first stomach, which, in not being able to be returned by the cow into her mouth, does not undergo the secondary process of chewing, so essential to the preservation and maintainance of health.

This disease readily yields to the treatment recommended in "Grain Sick," first by purging, and then bracing up by tonics, diluent washes, &c.

Hydrophobia, or Madness.—This disease arises from the bite of a dog, or other animal affected by madness, or rabies. Although it is regarded as incurable, it is proper to know its symptoms. These are a constant lowing and distress of the cow, a great flow of froth from the throat and tongue, with the breathing somewhat irregular; the malady at last breaks out into an ungovernable frenzy, or madness, and the loss of power over the voluntary muscles extends throughout her whole frame, and in four or five days from the commencement of the disease she dies.

The cow, as well as the hog, the sheep, and the horse, does not appear to be able to transmit this malady by biting, like the dog, the cat, the wolf, and the fox.

Wounds by Goring, or Pokes.—Cows, when they get together in the yard, or elsewhere, are liable to be gored by each other in different parts of the body, especially if any one of them is wounded, and they see or smell the blood. This renders them furious, and they fight and poke at each other with their horns.

The treatment of all such wounds is to be conducted, first by endeavoring to stop the effusion of blood, either by styptics, by pressure (binding up), or else by sutures, or stitching of the part. The styptics commonly used consist of

Oil of vitriol (sulphuric acid), and brandy, each, 1 oz.; or common salt and nettles, a handful each.

To be beaten together in a mortar till it becomes a pulp, and then placed on the wound. If not sufficient to stop the blood, it may be assisted by pressure or a bandage; if it still fails, and should the situation admit of it, the lips of the wound, or the divided skin, may be brought together with crooked needles or pins specially made for the purpose. When this is done, everything is to be left for the first twenty-four hours, in order that the blood vessels may collapse, and a further effusion of blood may be prevented. At the end of that time, the wound should be dressed.

In case the external opening of the wound is confined and the gore very deep, a small candle should be thinly wound round with flax or tow; and after it has been well soaked in the following balsam, and dipped in the digestive ointment prescribed below, it may be conveyed into the wound and there left:—

WOUND BALSAM.

Take compound tincture of myrrh, 4 oz.; cold drawn linseed oil, $\frac{1}{2}$ pint; spirits of turpentine, 4 oz.; and mix well together.

DIGESTIVE OINTMENT.

Take common turpentine, 8 oz.; spirits of turpentine, 4 oz.; linseed oil, 2 oz.; and mix over a slow fire.

The swelling is then to be rubbed once a-day with the following stimulant oils:—

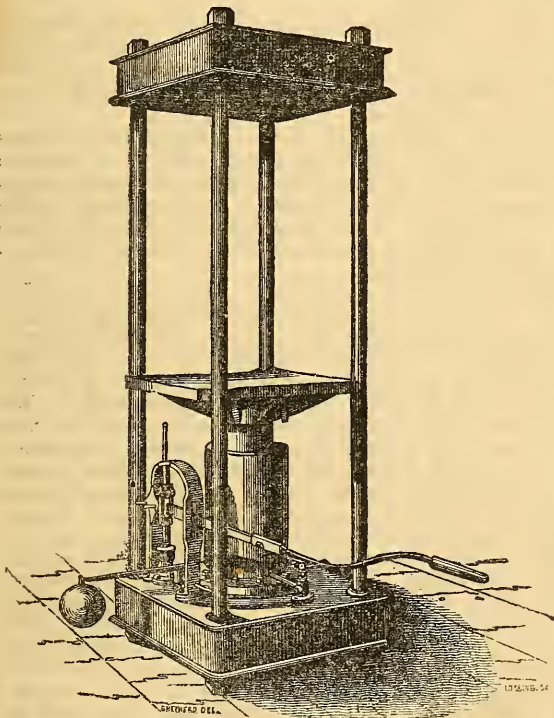
Linseed oil, 8 oz.; oil of turpentine, 2 oz.; oil of vitriol, 1 oz.

The last-named article is to be gradually mixed with the other two. The application of this will prevent any tendency to mortification, and also produce a quick suppuration, or running of the sore. These dressings may be repeated every twenty-four hours. If the parts are much swollen and inflamed, a dose of Epsom salts may be given, and the following fomentation used once a-day:—

Camomile flowers, $\frac{1}{4}$ lb.; wormwood, a large handful; bayberries (*Lauris nobilis*), and juniper berries, each 4 oz.; beer, or ale grounds, 6 quarts; vinegar, 1 qt.

The whole to be boiled for a quarter of an hour, and then to be applied, while quite hot, by dipping in it a large piece of flannel, and fomenting the inflamed parts. When this operation is finished, the flannel should be allowed to remain, and the animal covered up so as to avoid catching cold.

HOE & CO'S HYDRAULIC PRESSES.



HYDRAULIC PRESS.—FIG. 4.

THESE machines are constructed of various sizes, with solid wrought-iron cylinders, and may be made to work by steam power, with one or more pumps. The uses to which they may be applied are numerous, among which we would particularly mention the pressing of hay, wool, cotton bales, separating the oil from lard, flaxseed, castor beans, and other oleaginous seeds. They may also be employed with advantage in many instances in raising or moving buildings and other great weights.

Price with 8-inch ram, a single pump, and platine (follower), 38 by 26 inches, \$800; 10-inch ram, pump, and platine 40 by 28 inches, \$1,000; 12-inch ram, pump, and platine 46 by 32 inches, \$1,250. Separate cisterns, \$50 extra. Larger and smaller sizes made to order.

REVIEW OF THE NOVEMBER NUMBER OF THE AGRICULTURIST.

Preservation of Cabbages.—I was strongly tempted to drop one *b* in that word, as I often am disposed to do in all superfluous letters in all words. If printers would set the example, it would soon become a law. But about preserving cabbages. You know, or rather you don't know, I am a Dutchman. For the last fifty years I have always wintered my cabbages upon the same ground where they grew. I pull them up, and set them bottom up in a row on the ground; and then ridge up the earth on each side, leaving the roots sticking out, and whenever the ground is not frozen, I can go and pull out a few and take into the cellar for immediate use. This is the easiest and best way I ever saw cabbages kept.

The Cow—Her Diseases and Management.—I was much amused the other day with a little matter connected with these articles. A neighbor of mine, whom I had tried to induce to subscribe for the *Agriculturist*, had a cow taken sick, and, while in that condition, a pedlar happened along with "a new and valuable work," for which my friend paid a dollar, and got a recipe to cure his cow. But it did not answer. He then came to me for further advice. On referring to one of your back numbers, I easily found a description of the disease, and a remedy, which proved effectual. At this he seemed very much surprised, and immediately ordered the paper, declaring it worth a dozen of his "new book;" and that he had no idea that it contained anything of any use to him.

Improved Rotary Cylinder Straw Cutters.—It actually seems as though there was no limit to the improvement of agricultural implements. The invention of any machine is only the beginning. Some ingenious Yankee immediately takes up the idea, and adds an improvement, which has hardly got well out of his hands, before some one else seizes it and adds another. So it has been with the straw-cutting machine for the last twenty years. Although this last improvement seems to be the *ne plus ultra*, it is impossible for one to say but what it may be still further improved—I can't tell how.

Improved Refrigerators.—A friend of mine, at the south, where he can grow rice, but not ice, writes me that he has carefully examined into the philosophy of this plan and is well pleased with it; but deprecatingly asks how he can be benefited by it. Wait a bit. Never despair while there is anything left that Yankee ingenuity has not done. Be assured, in due time it will be done. The "ice-making machine," is already invented. *Ice made here at all seasons*, will soon be seen upon sign boards in every town. "Tom, run to the

refrigerator, and get one of those turkeys killed last fall—and, mind, bring some of that three-year-old butter—these things are all better for age,” will soon get to be common expressions. And why not? This is an age of wonders. And an improved refrigerator, with ice made on the spot, may yet serve to keep my South-Carolina friend cool.

Apple Orchards.—So, so, I am to be set down as an ignoramus, ha? because I continue to grow apples. Native fruit, of that universal variety known as “five to the pint?” Well, I can tell you what it is, sir; the “five to the pinters” are strongly in the majority. And nothing that you, or I can say, will change them. This sort of people never read. “People who pay attention to their fruit trees are sure to make them bear.” That is the difficulty. Too many persons, particularly in our new settlements, pay no attention to getting trees, and half those who do, pay no attention to them afterwards. They seem to imagine that they must pay attention to everything else rather than the orchard. The best use that can be made of all the leached, or spare ashes, about the farmhouse is in the orchard. They contain a part of the natural aliment of trees, besides the benefit of preventing worms and insects harboring around the roots when they are freely used. “Shrewd men, who raise fruit for sale, now generally select one, two, or, at most, three or four kinds, &c, and confine themselves entirely to these.” Just so do just such men who are raising apples for their own use. It is all well for amateurs, or nurserymen, who have time to devote to the business, to multiply varieties; but for the plain, small farmer, three or four kinds of good apples are sufficient, so that he has plenty of them. At any rate, an excellent assortment for family use can be had in seven or eight kinds.

Ventilation Essential to Health—and Hints for the Preservation and Maintenance of Health.—Although from different pens, must have been operated by the same current of magnetic fluid. Reader, will you turn back and look at those articles again? Read them once more and act upon them.

Use for Corn Husks.—Why that is not half their uses. My grandmother knew of several others a hundred years ago. I can recollect in those days, when it was not so very convenient to run to the store and buy a scrubbing brush to scour the kitchen floor, that she had some auger holes bored through a block or board, and bunches of corn husks drawn in, and this being fastened to a long handle, made an excellent scrubbing brush. A bunch of husks, tied together neatly, makes a very nice hearth brush. And, certainly, a horse collar made of corn husks is cheaper and better than a leather one. I could go on for a long time, but this will do for one husking.

Texas Wheat.—There is no difficulty in raising wheat in Texas, nor any other southern state. It is more difficult to preserve it after it is raised, from the weevil. If it were not for this pest, no doubt there would be much more wheat grown at the south. I should like to know if the wheat growers of Texas are not troubled with weevils.

Agricultural Botany.—I am much pleased with

the remarks of this writer upon Dr. Darlington's excellent little work; and as but few seem inclined to buy and read the volume, I don't know of anything better that can be done than to make the extracts proposed.

Adulteration of Food—Tea.—It is not very surprising that people will continue to drink this beverage. A good cup of tea is invigorating to the weary soul. But it is almost past belief that the American people will continue to pour down their throats a vile decoction of such infamous drugs as are sold to them under the name of tea. It seems to me that the only sure way to avoid being poisoned, is never to touch anything sold that goes by this name. But as people will continue to drink, and I among them, my advice is, to drink none but black teas.

Chocolate.—As to this, the more grease and corn meal, the better; for it never was fit for anything but the hogs.

Rough Notes by the Way, No. 3.—The idea about laying boxes in a henhouse is well worth remembering. I shall surely profit by it. Reader, perhaps you might also. Pray turn to the article and see.

Buckwheat Cakes.—“The griddle should never be greased.” Your readers have been told that “long time ago.” And now the direction to use a little beeswax once a day, is better than all this soap, sand, and salt.

Small Pox in Sheep.—I should like to know whether this small pox in sheep is of the same nature as that which afflicts the human family, and liable to become a human malady? [It is stated to be analogous to it, but whether it is contagious to man we have no means at present of knowing.]

State of Agriculture in Morris County, N. J.—This is one of that class of plain, common-sense sort of articles that I always read with pleasure. But the greatest thing about it is, the plain manner that it shows the advantages of having facilities for the farmer to communicate with the city. The “gude housewife” will, of course, send her milk to market whenever she can realize two cents a quart, because that is the most profitable disposition that she can make of it. But if there were no railroad, how could Mr. Smith dispose of his milk as he does? And yet, notwithstanding the manifold advantages of these great channels of communication, the farming community are the last persons to favor their construction, and in numerous cases they are the most strenuous opposers. They are not even willing to make good common wagon roads. Many of them seem to think that “road tax” is little better than robbery. If not too late, I would say to W. D., that lime mixed with the earth he speaks of, would undoubtedly prove beneficial. In fact, wherever woody fibre abounds, or sourness, as is almost always the case in earth from swamps or ponds, lime will be found beneficial. Ashes mixed with such earth will also prove advantageous, though in a less degree. Write again, friend W. D.

Which is the Most Profitable Breed of Sheep.—is a question often proposed—never solved. This is from an English paper, but is as *appropos* to this as that country. And the reason that it cannot be

solved is, because, that in different places, different breeds are best. Yet how often do we see long articles written to induce others to believe that this or that particular breed, which the writer happens to own, are most decidedly the only kind that ever ought to be kept by everybody else. This, however, does not appear to be the object of the writer of this article. On the contrary, it is a very sensible one, and well worthy the attention of the sheep farmers of the United States.

The True Principles of Farming.—This is another English article. But the ideas are equally well adapted to the United States. But of all difficult subjects ever undertaken, the writer who should undertake to write a work, in which he would lay down the "true principles of farming," would find his task the most difficult. No theory nor principle could be offered but it would find opponents. Almost every farmer, particularly if he is one who never reads any work upon the subject, thinks that he conducts all his operations upon the true principles. It would be as difficult to make a work giving the true principles of farming, as it would to decide what is the best breed of sheep. The true principles in Maine, would hardly do in Louisiana.

The Arracacha vs. The Potato.—Aha! Something new, is it? No doubt, to many of your readers it is not only new, but is all Greek. And in vain will they search a Lexicon or Encyclopædia for a definition. And yet, new as the word may be to many, it is more than twenty years since Baron de Schack, a celebrated botanist, undertook to introduce the cultivation of this root into the United States, as an article of human food.

In the year 1827, the arracacha was growing in great perfection at Cantonment Brooke, in Florida.

In 1828, the late William Prince had thirty plants growing in his garden at Flushing, Long Island.

In 1829, Dr. Mitchell says that he had received a few roots from Caracas, which lived through the winter in a hothouse, and died next summer in the open ground. Dr. M. was of opinion that the cultivation would never prosper in this country, unless in the extreme south.

In 1831, Gideon B. Smith, of Baltimore, sent a lot of roots to Boston. He also planted them at Baltimore. In South America, it is called by the name of *apio*, which is also the Spanish word for our common garden celery.

No doubt, it is a valuable esculent, yet it can never take the place of the potato; for it will not keep in an eatable condition after it is dug, but a few days. In August, 1831, Mr. Smith was of opinion that the root could be cultivated as easily as the sweet potato, and in March, 1832, he thought that it would be quite as easy to cultivate it as the parsnip, he having succeeded well in preserving it through the first winter. But it did not finally succeed.

About the same time, Mr. Legare, of Charleston, to whom Mr. Smith had presented some roots, had one of them cooked, and found it to taste like the potato and celery combined. He, too, failed, as I presume all others did.

From all this and much more "experience," it

seems to me that the arracacha, is hardly worth much more experimenting upon. I have full faith that the potato will yet recover from its present malady, and that no other vegetable can fill its place. Though, in the mean time, I shall be pleased to see experiments tried with anything that bids fair to serve as a substitute. I have only given a little arracacha history, so that people may not be tempted into expensive experiments, under the supposition that it is something "new under the sun."

Rag Weed.—"It has been stated, on what authority we know not, that land, on which rag weed grows, is not suitable for wheat." Certainly. If it is growing on the land, it is not suitable to sow wheat on. But give the land a first-rate plowing and turn the rag weed about ten inches under, and my word for it, if the land is otherwise suitable for wheat, the rag weed will not be much in the way.

The Florida Everglades.—The project of draining this vast body of land is one that ought not to be lost sight of. But why give the land to the state? The general government own the land, and have the power, and the interest is theirs, and that is the proper authority that should immediately set about this great work. The increase in the value of their own land would more than pay all the expense.

Milking Cows.—"This is a subject of too much importance to be passed over." Yes it is. And if the writer means to leave the impression that he would prefer to have cows milked three or four times a day [unless they are giving an extraordinary quantity, say twenty to thirty quarts], I should like to have him pass over my cows entirely. I must repeat, that I can see no benefit arising from so often milking. Regularity in time of milking, and by the same person, as much as possible, is always advisable; but unless the cow naturally secretes so much milk that the udder is unable to contain it through the day, it is idle to be pulling at the teats three or four times during that time. And in winter time, if we have a cow that will carry all the milk she will secrete for twenty-four hours, I do not believe that there is anything gained by milking more than once in that time.

How to Keep a Horse from Straying, should have been entitled "How to hitch horses on the prairie." The plan is an ingenious one, and it reminds me to tell you how to make a baulky horse pull. If one horse of a pair is baulky and the other is true, tie a cord to the tail of the baulky horse and to the doubletree, so that he must go ahead and keep his end up even, or have his tail badly pulled, and my word for it, he will go ahead after getting one or two good jerks.

A Day to Myself.—Ah! this reminds me that it is full time that I was taking a night to myself. And so another monthly farewell from your

REVIEWER.

HOW TO PRESERVE EGGS.—Take 8 quarts of unslacked lime, $\frac{1}{2}$ lb. of common salt, 2 ounces of cream tartar; mix in water so as to bear an egg with its top just above the surface; pour the mixture into a water-tight cask containing the eggs, and they will keep good for two years.

DISPOSAL OF THE FILTH OF PARIS.

FROM an intimation in our last number, we fulfil our promise in copying the following judicious remarks on the "Filth of Paris," from Mr. Colman's late volume on European Agriculture, which will apply equally well to the large cities of the United States, as to those of France;—

There remains one establishment to be spoken of, directly connected with, and of great importance to, agriculture, as well as to comfort and health; but which, having no other than a disagreeable interest to many of my readers, I forewarn them at once to pass it over; though a French writer humorously observes, that "a book written upon assafoetida is in itself no more offensive than a book written upon roses."

This subject considered in a philosophical and practical view, is of the first importance. It would be altogether a false, in truth, a mere affectation of delicacy, to hesitate to treat it as its importance demands. In all the arrangements of Divine Providence, nothing strikes the reflecting mind with more force than the beautiful circle of mutual dependence and reciprocity in which everything proceeds; so that the humble elements perform their part, and the most elevated and brilliant can do no more; and the part of the former is as essential to the common well-being as that of the latter.

Look at a heap of manure, composed of every offensive substance which can be congregated together, reeking with detestable odors, and presenting a mixed mass of objects utterly disgusting to the touch, the smell, and the sight. Yet this is the food of the vegetable world; containing all the elements of richness, nourishment, health, and beauty. All these, the plants know how to separate, to analyze, to digest, and appropriate, and with a skill distancing the sagacity of science, they will return it purified and sublimated in bread and wine, and oil; in flowers of exquisite coloring and beauty; in perfumes the most odoriferous which nature's toilette can furnish; in fruits luscious to the taste; and, above all, in products indispensable to life, and full of health and strength. The farmer, standing in his barnyard, knee deep in its offensive accumulations, may proudly say, "Here is the source of my wealth; that which has fed my cattle shall now feed my crops; that which has given fatness to my flocks shall now give fatness to my fields." A mysterious power is ever operating in every department of nature; suffering nothing to fail of its use; "gathering up the fragments, that nothing be lost;" and providing for the various wants of the infinity-varied forms of life, to which existence has been given, and from whom, if the Creator should, for one second, withdraw his guardian care, the whole must instantly perish.

The refuse of a city may be considered as of at least five different kinds; first the ordinary refuse of a house, such as fragments of vegetables, remains of food, bones, rags, and a thousand miscellaneous and nameless substances; second, the remains of fuel, such as ashes and soot; third, the refuse of different trades, of workers in leather, workers in bone, workers in horn, soap boilers, glue manufacturers, workers in hair and in wool, sugar refineries, and the innumerable other trades always to be found in the busy hive of a city;

fourthly, the dung of the domestic animals, cows and horses; and lastly, human ordure, or nightsoil. I shall say little of some other substances, which have been used for purposes of manure; but it is well known that many graveyards have been ransacked for the purpose of gathering up their mouldering relics, and that many hundreds of tons of human bones have been transported from the field of Waterloo, to England, for the purpose of enriching the cultivation. It cannot be denied in this case to be a more rational, humane, and I will add, Christian use, than that to which they were put in the bloody arena, where they were first deposited.

In Paris, every species of refuse is husbanded in the most careful manner. No refuse is allowed to be thrown into the streets after a very early hour in the morning, nor until after ten o'clock at night. This refuse consists of what may be called the house dirt, and is laid in heaps in front of the houses near the gutters. A very numerous class of people, called chiffonniers, consisting of as many women as men, with deep baskets on their backs, and a small stick with a hook at the end, carefully turn over every one of these heaps, selecting from them every article of bone, leather, iron, paper, and glass, which are thrown at once into their baskets, and being carried to their places of general deposit, are there again examined and assorted, and appropriated to any specific application for which they may be suited. These persons appear like a most degraded class; they inhabit particular quarters of the city, and the interior of their habitations is such as might be expected from their occupation. The profession descends in families from father to son, and from mother to daughter. They are a most industrious race of people; and many of them may be seen, even at midnight, with their lanterns, taking advantage of the first pickings, and anticipating the labors of the coming morning; and with the earliest dawn they are sure to be found at their tasks. No article of food escapes them; and they call the street their mother, because she often thus literally gives them bread. Though their occupation is necessarily dirty, yet they are almost always comfortably clad, and are never ragged. They never beg, and disdain to be considered objects of charity. They are licensed by the city authorities, for which some trifling sum is paid, and for which they must be recommended for their sobriety and good conduct. They have their particular districts assigned them, and are very careful to prevent all foreign intrusion.

The chiffonniers having done their work, next come the sweepers and collectors of dirt. Every inhabitant of Paris is required, under a penalty, to have the sidewalk in front of his place of business or residence carefully swept every morning. The sweepers of the streets in Paris are almost universally women, who, with long twig or birch brooms, sweep the streets thoroughly, and all the accumulations are taken in carts to be transported to the great places of deposit. The women assist as much in loading the carts as the men. These women appear to work extremely hard, carrying always a long broom in their hands, and a shovel fastened to their backs, to be used as occasion may require. The gutters in Paris are washed out every morning, by fountains which are placed in

every street, and what these sweepers are not able to collect for the carts, they are careful to sweep into the drains leading into the common sewers. I have looked at these people and at the chiffonniers often with great interest; and, filthy and disgusting as their occupation necessarily is, I have always felt in my heart a sincere respect for persons who, poor as they are, would be ashamed to beg; and who, by the severest and most useful labor, are proud to obtain for themselves and their families, though a very humble, and honest living. All this refuse is transported to places appropriated for its deposit, where it remains until it is decomposed, and is then sold to the farmers for manure.

ADVANTAGES OF THOROUGH DRAINING.

DRAINING, as understood thirty years ago in England (and to this day with us), merely meant the making of channels to carry off surface water, and underground drains, to dry bogs, or cut off springs. It has now an entirely different meaning in the agricultural world. Mr. Smith, of Deanston, near Edinburgh, was among the first to practice and explain *Thorough Draining*, as it is called. His system is, that *all* land requires to be drained—that the depth of loam, or soil, containing the food of plants, seldom exceeds a few inches, resting on a subsoil, or pan of clay, or hard gravel, saturated with water. By making drains from two and a half to five feet in depth, at every twenty or thirty feet, the land becomes dry; air takes the place of water; every shower furnished with a stock of ammonia, permeates the soil, and the result is, that instead of a few inches there are as many feet of fertile loam, the action of the atmosphere being sufficient of itself to produce the change, although, to hasten the process, subsoil plowing is made part of the system.

The change produced by the introduction of thorough draining in Britain, is said to be truly astonishing. Not only has the produce been greatly increased, but wheat and turnips have been grown at elevations, and in districts, where their cultivation was not before thought possible. By it, crops have been rendered less liable to disease, and harvest has been forwarded nearly a month. This will be better understood, if we reflect, that when water is allowed to remain in the soil until removed by evaporation, the heat of the sun and air, instead of being imparted to the land, will actually, through this process, produce an intense degree of cold. On the other hand, were the soil so dry as to allow the rain to pass through, it would imbibe heat from every ray that fell upon it.

The British government has considered this improvement of so great importance, that, during the last three years, large sums have been loaned to all applicants, to be expended in drainage, under the superintendence of inspectors. These loans are repaid by annual instalments of $6\frac{1}{2}$ per cent., for about twenty years; and as the money is borrowed by government at three per cent., these payments cancel the loan and interest.—*Robert Jardine.*

THREE PRINCIPAL ELEMENTS OF PRODUCTIVE FARMING.—Labor—capital—intelligence.

CISTERNS AND MATTRESSES—ANSWERS TO REVIEWER.

In answer to Reviewer, I would state, that it is of the western counties of Mississippi I generally alluded to. The water even now in general use is limestone, hard, and taken mostly from springs, but sometimes from bayous and wells. No cistern with which I am acquainted, has had an unpleasant odor. I have two, my son-in-law, one, two brothers-in-law, one each, and there are others at Edward's Dépôt—all in this neighborhood. I have drank from perhaps 50 to 100 others in this part, five years. I have heard complaint, of bad odor, but it was where the pump was used, yet others who use pumps deny this to result from their use. All of us around here catch water, winter and summer, and as regards ice, generally we never think of it, our water is cool enough; and if care be taken so as to cut off all water after cold weather, some think the water will be cooler; but I think all is owing to the situation; because the coldest water from a cistern that I have used was from one situated north of the house, perfectly shaded nearly all the day. I think the use of ice has done more injury than tea or coffee, my friend, Reviewer, to the contrary notwithstanding. If a body was able to get fixed rightly, before he died, or got rich enough not to need comforts,—I would have my water all filtered as it entered the cistern. In catching water at all seasons, there should be one or two small perch (fish) put in, to eat the embryo mosquitoes. Do not put more than that, as it will not be necessary. I put five or six in mine, but all died to one, and that was larger than twenty or thirty of those I put in, it had grown that much in three years. If you do not put in the fish, you will have to strain the cloth.

I have just this moment thought of a cistern of water spoiled by putting in a half bushel of lime to correct the odor,—the only case I ever heard of. And Reviewer heard of it, too. The dashing of the bucket when let into cisterns will to a certainty keep water pure; four or five years experience warrants me to speak "advisedly."

Reviewer is afraid of your readers tiring. No sir; although they know you not, yet your reviews are conducted with such good feeling, that I guess, your writings are a plaguey trouble,—when they are not in each No. For one, I regret your absence, and always look for Reviewer the first thing.

Unless I am greatly mistaken, Reviewer has slept on as good cotton mattresses as of any other kind. I have used moss, wool, cotton, hair, shucks and cotton mixed in layers; and really as regards the luxury of a good sleep, I would as leave have cotton as any, and it is much preferable to moss. I have used no other beds for eighteen years winter and summer but mattresses, and from the urgency with which I appealed to my fellows to try cotton, a gentleman in ridicule dubbed me the "Knight of the Cotton Mattress." He was an editor, and abused Reviewer and my humble self most roundly—but since he has acted most nobly, made amends by approving the exertions only made for the good of the whole. I know no man, north, south, east, or west, who has as much right to stick to the cotton mattress, I

have used them for the greater part of eighteen years, and have tried all others. Besides this, I have had city and town gentry, who were unwilling to believe that cotton could make such beds, and insisted nothing else but hair could—in one instance I had to demonstrate, by showing the cotton. The only objection is coldness in the winter to invalids of delicate habits, but the same objection was to hair, and greater to moss—but easily obviated by putting a blanket under the bottom sheet. But cotton mattresses are not the only *comfort*, in cotton, there are many such things as *comforts*, made about this house, with eight to ten-cent calico, two to three pounds of cotton crushed into bats,—they are really more *comfortable* of a cold night than the best Mackinaw blanket.

M. W. PHILIPS.

Edwards, Miss., Nov. 17th, 1848.

ROUGH NOTES BY THE WAY.—NO. 6.

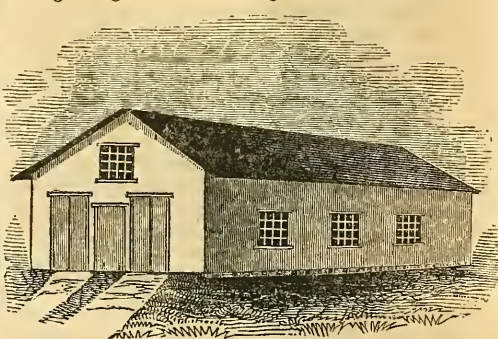
On my return to Philadelphia, after visiting the estate of Mr. Maillard, I found a carriage waiting to take me to the farm of Captain Harry Ingersoll, of the U. S. Navy, which is situated in Bristol, about seven miles from Philadelphia. This farm contains about 70 acres, and when purchased by Captain I., three years ago, was completely run down by improper cultivation—the buildings greatly out of repair, and nearly worthless. But now, from the appearance of the buildings, vegetable and flower gardens, as well as the meadows and fields, one would judge that the place had been under high cultivation for some years. This, however, may be accounted for, so far as the pleasure grounds and flower gardens are concerned, from the superior management and good taste of his lady, Mrs. Ingersoll.

A very handsome and substantial dwelling has been built by Captain I., of his own planning, unique in its character, and harmonizing well with the beautiful woodland scenery surrounding it. A quarry, near the site where it stands, furnished the stone for its erection. In the hole, or pit, from which the stone was taken, an ice house and a beautiful conservatory have been constructed, “killing,” as it were, “two birds with one stone.” There is one object near his mansion, though seemingly too trivial to mention here, which I think worthy of note. Around an old chestnut stump, very large in its dimensions, there has sprung up a cluster of sprouts, some six or eight inches in diameter, which, in number of treelets, and in the picturesque effect of its arborescent head, surpasses anything of the kind I have ever seen.

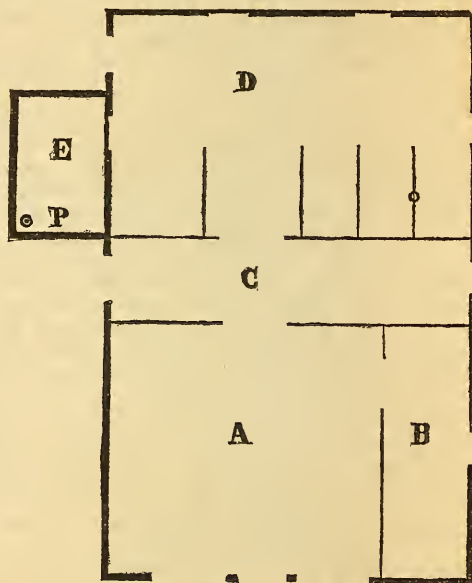
I also found a water ram in operation here, which forces the water up a steep hill to the upper stories of the house, and over that part of his grounds where he wishes to use it. It is very singular that water rams have not been as common for ages past as a well or cistern. There are few things more convenient or useful, where water is to be taken up an ascent, or carried any distance on level ground.

A little to the southward of his house, Captain Ingersoll has erected a neat, though plain-looking horse stable and carriage house, which, from its convenience, as well as internal arrangement (being

also of his own planning while on ship-board), I have thought well worth the trouble to sketch and get engraved for the *Agriculturist*.



NORTH AND WEST VIEW FROM THE HOUSE.—FIG. 5



GROUND PLAN.—FIG. 6.

Explanation.—A, denotes the carriage house, 21 by 22 feet; B, the watchman's room, 8 by 21 feet; C, the passage way, 6 by 30 feet; D, the stable for horses, 18 by 30 feet, containing six stables; E, the shed, covering the pump and manure pit; P, the pump.

Over the manure pit, is a sort of rough grating, made in two pieces, so as to be easily lifted off when the pit is to be cleared of manure, on which the straw is also kept, that has been used for bedding during the night; thus affording a circulation of air under it; and being sheltered from the rain by the shed, a considerable quantity of litter is saved, besides the necessity of keeping it in a spare stall.

The hay is taken into the loft through the north window above the carriage-house doors; and the straw through another window at the opposite end of the stable.

In the loft floor, there are two scuttles, about 3 by 5 feet each, one over the passage way for throwing down hay, and the other over the stable through which is dropped the straw; these also serve for ventilating the passage way and stables.

At the south of the stable, there is a paddock, or yard, about 54 by 100 feet, but not large enough, either way, to get up a run, where the horses are usually turned out after coming in from a drive, to roll in, and let off the fumes of their bodies, instead of filling the stable with foul air.

Captain Ingersoll has spared no pains in cultivating his lands, having tried several experiments with marked success. The past season, he applied a quantity of guano, the effects of which I detail below, with the view of encouraging others to follow his example, and it is hoped they will make known their results.

To an underdrained meadow, containing 3½ acres, which was considered as run out of grass, not yielding one fourth part of a crop in the summer of 1847, he applied broadcast, on the 4th of April last, 300 lbs. of Peruvian guano, per acre, mixed with an equal weight of plaster. The result was wonderful. On the 15th of June, he began to cut his hay, and the Timothy was as thick as a good mower could move steadily through.

SAMUEL ALLEN.

New York, Jan. 10th, 1849.

AGRICULTURAL TOUR SOUTH AND WEST.
NO. 2.

I THINK the close of my last letter left us at St. Louis. The importance of the trade of this western town may be imagined from a view of the quay. For nearly a mile, the shore is crowded with large steamboats, lying so thickly that only bows reach the shore. At this season, most of the New-Orleans boats go down with decks crowded with fat cattle, cows, calves, sheep, hogs, fowls, and horses, and with holds full of flour and grain, while every space on the decks and guards, is piled up with bags of corn, oats, and wheat.

The freight of cattle from St. Louis to New Orleans is \$6 a head. Among the hundreds that I saw shipped for beef, I did not see one that would have sold for that purpose at one fourth the usual price, in the New-York market, except, perhaps, some young steers. The sheep were better; some of them really good mutton, though all of them of a small size. I do not think I saw any that would exceed twenty pounds to the quarter; generally not fifteen pounds.

From St. Louis to Vicksburg, my place of debarkation, there is but very little to interest the traveller. The weather was gloomy, and a great portion of the shores of the Mississippi River are still in a wilderness condition, or in a most primitive state of cultivation. Between St. Louis and the mouth of the Ohio River, there are miles of rocky shore, towering in beating cliffs high in the air, and in places almost perpendicular from the shore. But below the mouth of that river, no rocks nor high lands are seen, except in four or five places down to the gulf. Memphis, Vicksburg, and Natchez are the most prominent of these points. It is in consequence of this liability to overflow, that we see but few villages on the banks of the

river, and nearly all the residences are very primitive-looking log cabins, with farms to match. Most of the settlements were made for the purpose of cutting wood for steamboats; the price of which is from \$1.50 to \$2.25 a cord; and is mostly cotton wood. The price of chopping, splitting, and cording, from fifty to seventy-five cents. Owing to the vast number of *snags*, few boats venture to run nights, except in bright moonlight.

On the 15th of November, below Memphis, the green foliage began to tell that we were rapidly getting into a warmer latitude. One of my travelling acquaintances of this passage was an intelligent gentleman of the name of Weston, who had spent two years in the Rocky Mountains and New Mexico, for his health. He passed seven months with a "mountain man," who took a lot of tame goats, so trained as to follow the mules, into the mountains, for the purpose of catching lambs of the Rocky-Mountain sheep. He succeeded in catching quite a number, which he reared with his goats; carrying them while small, in hampers on mules' backs. His design was to bring them into the United States; but Mr. Weston subsequently learned that all of them died before they came to maturity.

These animals, though called sheep, are very unlike our domestic animals of that name. They have horns which give them the name of "big horns," and they are covered with long hair instead of wool. Though Mr. W. tells me, that in winter, they have a thick coat of fur, something like the Cashmere goat, which he thinks would be valuable. The meat is very delicious. Mr. W. speaks of the New-Mexican sheep as a very inferior kind. There is, also, a mongrel race, of hybrids, between sheep and goats (?), which are a worthless race. Nearly all the New-Mexican sheep have horns, and some of the rams, as many as five, sometimes three feet long.

He thinks not more than one tenth of New Mexico is cultivatable, and none of it without irrigation. Some of the isolated valleys of the Rocky Mountains, he speaks of as delightful places for the dwelling of civilization. The most extensive, by far, is that of the Great Salt Lake, which is sufficient to form a small state within itself. It is in the north part of this valley, that the Mormons are now settling. From two of them on the boat, I learned many facts in relation to that settlement; but I must not occupy space to repeat it. Though I doubt not the account of the trip of one of them, who went with General Kearney, to California, and returned through Oregon and the Salt Lake Valley, would be highly interesting to the readers of the *Agriculturist*.

On the boat, I made the acquaintance of Dr. W. J. Polk, a relative of the president, who related to me an anecdote of a planter on the Arkansas, that is so practical, that I will repeat it. It is his manner of punishing negroes, and he finds it more effectual than the whip.

Every Sunday, he gives an excellent dinner in a large room provided for that purpose, where he requires every negro to attend, neatly washed, and dressed, and after listening to a sermon, or the reading of some good discourse, all are seated at table, except those who are on the "punishment list;" and these are obliged to wait on the others,

and see them feast, without tasting a mouthful themselves. I would commend this course to others of my southern friends.

I landed at Vicksburg, November 17th, and found as fine a lot of mud in the streets of that hill-side town, as one could wish for. I spent the night with my hospitable friend, Daniel Swett, and in the morning saw a show of Mississippi ice. Mr. Swett has been for several years engaged in the introduction of improved agricultural implements, into this part of the country, without hitherto meeting with much success. One difficulty, hitherto experienced with eastern plows, is found in the low beams. (a)

Nov. 18th.—I rode out to the plantation of Dr. M. W. Philips, whose name has long been known to the readers of the *Agriculturist*. He lives some 15 miles east of Vicksburg. The intervening land, (Warren county), being the most uneven surface that I ever saw cultivated. It may be said that there are no hills; but the whole face of the country is sunken into hollows, from one to one hundred feet deep, just as thick as they can lie side by side of one another. The soil is a light alluvion, without grit, and very deep. It is very liable to gully, and yet the perpendicular cut banks of the railroad, are standing with the ten-year-old spade marks still as plain as when first made. Many a hill side in this county is cultivated by the hoe, where it is so steep that a mule cannot pull a plow. It used to be celebrated as one of the best cotton-growing counties in the state; but a continued cropping of the land, without manure, or even returning the cotton seed as manure to the soil, has so worn out much of the land, that it hardly pays for cultivating.

Doctor Philips (by birth a South Carolinian), though educated as a physician, does not practice. He is one of that small class in the south, sneeringly called "book farmers." He has about 300 acres of land under fence, of which 200 acres are cultivated. Much of this still bears the deadened forest trees, showing its late reclamation from the wilderness. He works ten field hands, and makes 80 to 90 bales of cotton a year, together with all his corn and meat. He has a small flock of sheep, from which he gets his negro clothing; he has also a large herd of cattle. Of course he eats "home-made butter," and of an excellent quality it is, too. His cattle are the best in the vicinity. His large stock of hogs is a mixture of Berkshire and grazer, about fifty of which are now fattening in the corn field upon waste corn and peas. These will weigh from 150 to 250 lbs. He has this year 90 odd acres of cotton; 80 acres of corn, and 15 of oats. By the by, he is now sowing oats. These will afford winter pasturage and make a crop ready to harvest the middle of June. These oats are sown upon cotton ground of the present season.

None of my eastern readers can imagine the troubles of plowing down cotton stalks. They are about as big as thrifty peach trees a year old, and almost as strong. [We have seen a cotton stalk at least three inches in diameter, as hard, and having the appearance of wood.] Add to this, as is sometimes the case, a good coat of crab grass, thrifty stalks of which I have measured four feet long, and

plow makers may see why high beams are required to their plows.

Dr. P. planted this season a quantity of eastern corn an eight-rowed, white-flint variety, in rows three feet apart, and hills with two stalks one foot apart, which grew to perfection; but was attacked with "the rot" after it had got ripe, and nearly all went to decay in the field. His other crop of corn, planted late and owing to much wet weather, became very grassy, he estimates at about 35 bushels to the acre. The cotton crop of this vicinity was much shortened by early frosts.

A medium crop of cotton is 1,000 lbs. of seed cotton per acre. This will produce 290 to 300 lbs. of ginned cotton, and about 30 bushels of seed, weighing about 22 lbs. a bushel. If 100 bushels of cotton seed per acre is used as manure, it will increase the crop about one fifth. About a quart of cotton seed to a hill of corn, scattered around the hill of young corn, it is thought will increase the crop about one fourth. Yet vast quantities of this valuable article are wasted. Perhaps it would be useful information to some of your readers to learn that cotton seed is about the size, and has somewhat the appearance, when free entirely from the lint, of large sunflower seed, and is equally oleaginous.

Dr. P. having a rather extra quality of Petit Gulf and sugar-loaf variety of seed, is putting up some hundred bushels for sale. He is sending a large quantity to South Carolina, and realizes a dollar a bushel, exclusive of pay for sacks.

There is a new kind of seed in this neighborhood called the "Hogan seed," selling for \$10 a bushel. Last year, it was sold at \$1,000 per bushel, or a dime a seed! It is said to be a very large and productive variety, though not anything like so large as the mastodon, which, frequently in rich land, grows 8 or 10 feet high, with corresponding-sized branches.

Dr. P. is quite an amateur orchardist. He has about 40 acres set with trees, among which, he has 70 kinds of apples, some of which are now coming into bearing. And 140 pears,—150 named varieties of peaches, besides a host of unnamed—26 kinds of plums, 13 apricots, 5 or 6 of figs, and several nectarines. Early harvest apples ripen here the last of June. Early York and rareripe peaches ripen about June 20th. Snow peaches, July 1st, and some of them eight and a half inches round. Early Tilletson, ripen about 30th June, and are a very rich peach. Figs ripen here July 1st. Strawberries, April 10th, and continue about six weeks. Peaches bloom about the middle of February, and quinces the middle of March.

I have never seen a more thrifty-looking orchard than the doctor's. But few of the trees are yet in bearing. Mr. S. Montgomery, his brother-in-law, who also has a good orchard, is of opinion that summer apples will do well here; but has great doubts about success with winter varieties. At his place, we were treated with some very fine apples, just plucked from the trees. Certainly, if my wishes for success in raising fruit could insure it, such gentlemen as these would meet with a great share of it. I noticed on Mr. M.'s table, a well-read copy of Browne's *Trees of America*, and a full set of the bound volumes of the *Agriculturist*.

Mr. William Montgomery (the father), has spent a deal of money in a fruitless attempt to dam one of these soft-bank streams to drive a sawmill. Failing in this, he would now gladly avail himself of one of Page's patent circular saw mills, but is afraid to order one for fear it should prove a "Yankee humbug." A thousand other men in the south are in the same condition of this gentleman. They are greatly in want of just such a machine for sawing boards, but are afraid to purchase. So far as my word will go, I wish to assure them that these sawmills are just the thing wanted in a country where they cannot have water mills, and where all kinds of sawed lumber is, as it is here, very scarce and dear. Upon every plantation, there is already a horse power to which the sawmill might be attached at the gin house.

It is the fear of "buying a pig in a poke," that prevents a great many of these southern gentlemen from buying improved implements and machinery that would be of vast benefit to them. Many of them continue to use plows that would now be a great curiosity among eastern plowmen. Dr. Phillips has done much toward getting improved plows introduced among cotton growers. His system of cultivation, too, shows his neighbors whose land is wearing out, while his is improving, that such a soil as this judiciously managed should never wear out.

It is a truth that his crop of cow peas which he has often written about in the pages of the *Agriculturist*, appear to me sufficient to give the land a good coat of manure. The bulk of this crop must be beyond belief, to those who have never seen the like. My next letter I hope will be from the sugar plantations of Louisiana, provided it ever stops raining, so that I can get there.

SOLON ROBINSON.

"Log Hall," Hinds Co., Miss.,
November 22d, 1848.

(a) One of the editors of this paper, R. L. Allen, has travelled extensively through the south within the last two years; and having detected this radical deficiency noticed by our correspondent, immediately ordered high beams for several sizes of plows, including an entire series from the lightest cotton at \$1.75, to the heaviest sugar plow. These are made both by A. B. Allen & Co., of New York, and by Ruggles, Nourse and Mason, of Worcester. We venture to say, that, including the beautiful self-sharpening and sugar plows, lately got up by the latter firm, and the cheap, yet well-made and efficient cotton, corn, and sward plows, made by the former, there has never been a set of plows constructed, combining so much economy and advantage.

EFFECTS PRODUCED UNDER AN EXHAUSTED RECEIVER.—Under a receiver thoroughly exhausted by an air pump, gold and feathers fall with equal velocity; most animals die in a short time, but some of those, which are amphibious, live several hours; vegetation ceases to grow; combustion cannot be maintained; gunpowder will not explode; smoke descends; water and other fluids change to vapor; heat is slightly transmitted; glowworms emit no light; a bell, when struck, is but faintly heard; and magnets are equally powerful.

LAKE CHAMPLAIN SHELL MARL (?).

On my father's farm, is a marsh (one of the many in this county), containing manure to a depth of from 10 to 25 feet. This manure you may call muck, if you please, but I shall dissent, in part, from that term, as I have used what I call muck, not half equalling it. Had I time, I should be happy to tell you of its excellent qualities, and of the grand results from its use. Sandy and gravelly soils it regenerates beyond anything I ever tried. It turns the hardest baked clay beds to a beautiful, rich, mellow soil. It will forward a winter or spring crop of wheat at least six days earlier than barnyard manure; and one dressing of it will outlast three dressings of that manure; besides, it is free from all kinds of seeds, or anything that will grow on upland. In digging it, the smell is very offensive, and it stains or colors whatever it touches a reddish brown. This marsh manure [marl? Eps.] is principally composed of the remains of vegetables, bones, and shells.

I have thought that if the farmers of Long Island would purchase it in lieu of our leached ashes, that have laid on the banks of our lake for seventy or more years, they would find it more beneficial; though the same properties contained in the one may not all be found in the other.

E. HIBBARD.

North Hero, Lake Champlain, Dec. 31st, 1848.

WIRE FENCE.

If Mr. Peters is correct in saying, in your January number, that five strands of No. 11 wire, 80 rods long, each weighing only 125 lbs., and can be bought for seven cents per pound, and will satisfy us that wire of that size is sufficient for a fence against horses and cattle, his communication is worth a life-time subscription for your paper. He should be ranked among that class of men who are conferring lasting benefits upon their fellows.

Will Mr. P. please to favor us, through the medium of the *Agriculturist*, with an account of the size of No. 11 wire, its strength, where it can be had at seven cents per pound, and the necessity of heating, as mentioned by him, before painting it. Certainly, if a sufficient wire fence can be made at so cheap a rate (20 cents per rod), it is worth enquiring into, and should elicit the attention of every farmer in the country.

I live where timber is plenty, and log fences are generally used; but have for some time been convinced of the waste. Last year, I made more than a mile of board fence with the object of saving timber. I cut the logs in my own woods, hauled them from five to five and a half miles to a sawmill, and paid \$4.50 per thousand feet for sawing, and after hauling the boards home, I probably had as much work, perhaps, to prepare them for a fence, as I should have had in preparing the wire. The bill for hauling and sawing alone cost me more than the wire would have cost, according to Mr. P.'s calculation.

S. T. WARREN.

Frederica, Del., Jan. 2d, 1849.

VEGETATION THE SOURCE OF REPRODUCTION.—No plants, no animals—no animals, no manure—no manure, no cultivation.

AGRICULTURAL MANUFACTURING PRODUCTIONS, CAPITAL, &c., OF THE U. S.

We find among our exchanges various estimates and statistics of the products of the Union, which seem quite incredible to any one not familiar with the resources of this country. Some of these are official, and some conjectural, the latter exaggerated, undoubtedly in some instances; yet, deducting largely for over estimates, we have still remaining an annual production from American industry and capital that will put to shame all the gold and silver mines of the globe, even adding those of California at the highest estimates which have yet been given of them. We shall throw these together, as a useful reference for such of our readers as like to dwell on the substantial glories of our rising republic.

The first item of interest is the vast and rapid increase of business on our two leading canals.

NEW-YORK AND PENNSYLVANIA CANAL TOLLS.

	Erie Canal.	Penn. Canals.	Total.
1843	\$2,082,145	\$1,017,841	\$3,099,986
1844	2,446,038	1,164,325	3,610,363
1845	2,646,117	1,196,979	3,843,096
1846	2,756,120	1,295,494	4,051,614
1847	3,635,380	1,587,995	5,223,375
1848	3,279,443	1,550,555	4,829,998

The next gives the staple articles received on the Erie Canal. This shows a slight falling off in the aggregate of 1848, as compared with the previous year; but that was so immensely in advance of any preceding, owing to the accidental stimulus of the Mexican war and the famine in Europe, that this was fully to have been anticipated. Like the temporary decrease of level in some petty corner, where the incoming tide is rushing by, the subsidence only makes room for an additional increase from the next succeeding wave.

PRODUCE ARRIVED AT TIDE WATER VIA THE NEW-YORK CANALS.

	1842.	1843.	1844.	1845.	1846.	1847.	1848.
Flour.....bbls.	1,577,555	2,073,708	2,222,204	2,517,250	3,063,441	3,952,972	3,121,655
Wheat.....bush.	928,347	827,346	1,262,249	1,620,033	2,950,636	4,143,830	3,081,458
Corn.....bbls.	366,111	186,016	17,861	35,803	1,610,149	6,053,845	2,887,937
Barley.....bbls.	522,993	543,996	818,872	1,137,917	1,427,953	1,523,020	1,551,328
Beef.....bbls.	21,437	47,465	50,000	67,699	45,600	71,266	63,288
Pork.....bbls.	79,235	63,777	63,646	45,154	80,093	76,179	88,301
Ashes.....bbls.	44,824	77,739	80,646	69,668	46,812	37,538	64,616
Butter.....lbs.	19,182,930	24,205,700	22,596,300	21,825,455	21,477,657	22,724,000	23,527,362
Lard.....bbls.				3,064,800	6,721,000	4,348,000	9,786,418
Cheese.....bbls.	19,004,613	24,336,260	26,674,500	27,542,861	35,560,118	40,844,000	42,947,329
Wool.....bbls.	3,355,148	6,216,400	7,672,300	9,504,039	8,866,376	12,044,000	8,729,400
Bacon.....bbls.				1,631,700	4,000,500	4,902,000	8,221,857

Let the reflecting man look at the quantities of butter, cheese, lard, and bacon, and wonder at the successful efforts of American industry as applied to these single items—nearly 85,000,000 pounds' worth about \$8,000,000 in the New-York market.

which have reached this point from one avenue alone!

The following table shows the increasing exports of some of the staple articles comprised within less than six and a half months.

	July.	August.	Sept.	Oct.	Nov.	Dec. 1 to 12.	Total.	Total '47.
Flour.....bbls.	27,518	44,998	106,739	155,784	233,681	33,561	502,391	739,267
Wheat.....bush.	18,824	19,173	156,103	159,953	180,378	22,654	547,085	1,191,604
Corn.....bbls.	289,080	465,697	1,060,953	516,500	604,326	149,136	3,065,692	1,408,352
Beef.....bbls.	1,180	2,001	1,538	1,229	9,380	4,947	20,275	14,908
Pork.....bbls.	4,604	7,356	6,109	3,186	5,993	1,492	28,740	27,179
Lard.....kegs.	23,719	20,332	19,703	22,356	27,185	5,260	117,555	33,611

We regret to notice that so large a portion of the wealth that would otherwise flow in upon us, is absorbed by imports, consequent upon the inadequate protection afforded to many articles, which

we should otherwise manufacture, with even greater advantage than attends an equal amount of labor bestowed upon agriculture. They are shown by the table appended.

UNITED STATES IMPORTS AND EXPORTS AND CUSTOM DUTIES.

Years	Breadstuffs and provisions.	Other domestic articles.	Foreign goods.	Total.	Imports.	Duties.
1843	\$11,204,123	\$66,589,660	\$6,552,697	\$84,346,480	\$64,753,799	\$7,046,844
1844	17,970,135	81,745,044	11,484,867	111,200,046	108,435,035	26,183,571
1845	16,743,421	82,556,355	15,346,830	114,646,606	117,254,564	27,528,112
1846	27,701,121	75,640,772	11,346,623	113,488,516	121,691,797	26,712,667
1847	68,701,921	81,935,543	8,011,158	158,684,622	146,545,638	23,747,864
1848	37,472,751	95,431,370	21,108,010	154,032,131	154,977,826	31,757,070

The estimates of all the crops of the United States, for 1848, have been rated at over \$590,000,000. Of these, the New England States contribute only \$58,000,000; while New York alone contributes \$79,000,000; Pennsylvania, \$55,000,000;

Ohio, \$49,000,000, and Indiana \$47,000,000. These are the great producing states of the Union.

The whole investment in manufactures in the United States is set down at \$343,300,000, Of this, New England furnishes nearly one third, viz:

\$109,000,000. Massachusetts stands second only, in the United States, as a manufacturing state, having \$52,000,000 invested in this department of industry; while New York has \$69,000,000, and Pennsylvania \$50,000,000.

Indian corn appears to be the great staple of the country; the whole quantity for the year being set down at about 472,000,000 bushels, valued at \$141,573,000. The hay crop takes the next place, and is estimated to be worth \$128,000,000. Cotton stands next, being estimated at 2,400,000 bales, worth \$64,800,000. The wheat crop, this year, is supposed to be equal to 105,858,000 bushels, and is valued at \$63,514,000. The products of the dairy, it is supposed will be worth \$12,360,000, and the potato crop \$40,600,000.

These last estimates are undoubtedly erroneous in several respects. The product of New England is largely underrated, while that of other states is exaggerated. This arises from various causes, high prices at which corn and some other items are charged, excess of production, &c. The result, however, is in the main correct, and shows the immense value of our internal production and exchanges, as compared with our foreign commerce. And it further shows conclusively the propriety of fostering these, and our *home industry* in preference to those of foreign nations wherever they come in conflict.

CULTURE AND PRESERVATION OF POTATOES.

HAVING the present year, notwithstanding the severe drought, succeeded in growing and preserving a fine and healthy crop of potatoes, I have decided to furnish you with an account of the circumstances under which they were produced, and my opinion relative thereto, for insertion in your journal, should you deem it worthy of a place therein.

About the first of May, I planted five acres in the following manner: the soil was a dry, micaceous, sandy loam, gradually rolling with a southern exposure; the seed used was both white and purple Mercers, principally large ones, cut into three pieces, and rolled in gypsum, and allowed to lie but a few hours after cutting. The field was an old sward, chiefly of moss and garlies; the manure applied was entirely from the yards, made from the cow and horse stables and the styes, about twenty-five two-horse loads per acre, spread broadcast before the plow—the land having been heavily limed several years previous. The planting process commenced with the tillage, by dropping the pieces of the tubers (prepared as above), about one foot apart in the bottom of every other furrow, which was five inches in depth and ten inches wide, strewing them with ashes and fine charcoal (from a locomotive, in which pine wood was consumed), about twenty bushels per acre. The plowing was performed in the usual manner, in lands of twenty-five yards each.

Immediately after planting, the ground was thoroughly rolled. After it had lain a few days, it received repeated harrowings, lengthwise of the furrows, in the warm part of the day, which was continued until the tops were three inches in height, after which they remained without tillage until they were some eight inches high, when the cultivator

was passed through, between the rows, and the weeds, if any, removed. They then received a light top-dressing of gypsum, after which they remained untouched until fit to harvest, which was done as soon as the skins of the new tubers were firmly set, but before all the tops were entirely dead. We began to dig about the first of September, before the autumnal rains commenced. They were placed in a cool, dark cellar, and spread on the ground floor about eighteen inches thick, where they remained for two months, when they were assorted and placed in bins about four feet deep, there to remain until marketed in the spring. They have so far kept perfectly, there being no visible traces of disease in the entire crop.

The yield was about 250 bushels per acre, which was a much greater product than I anticipated on account of the excessive drought. The whole expense of the tillage of this crop did not exceed 4 cents per bushel, independent of the planting and harvesting, which cost not less than 10 cents per bushel, making the aggregate cost of producing the five acres (including the seed, 80 bushels at 80 cts. per bushel), \$239. Potatoes of the quality of mine are now worth 80 cts. per bushel in Philadelphia market, which would make the net value of the crop \$761. Truly, this is not so lucrative as some of the miners of California have represented the raising of gold to be; nevertheless, I think the Mercers, well roasted, set quite as well upon an empty stomach as gold ore, and judging from the effect produced upon the morals and customs of the nations in which the precious metals are found most abundant, I much prefer being classed with the cultivators than the miners.

JOHN WILKINSON.

Mount Airy Agricultural Institute, }
Dec. 27th, 1848. }

MINER'S ORNAMENTAL BEE HOUSE.

THE engraving hereunto annexed represents an ornamental bee house, executed from an original design, expressly for my new work, entitled "Miner's American Bee Keeper's Manual," now *in press*, and shortly to be published by C. M. Saxton.

This cut represents something entirely new, in bee culture; nothing of the kind ever having appeared before, to the best of my knowledge. That such a bee house would be a beautiful ornament to a gentlemen's grounds, or flower gardens, there can be no doubt; and when we take into consideration the great profit derived from the labors of the bee, it must be admitted by every person familiar with the true management of them, that money cannot be spent for any ornamental, nor other use, from which a greater harvest would be reaped. It is true, that, from the careless management of most bee keepers, many persons do not meet with the success that has been anticipated; but, where is the business, that yields a revenue, that *takes care of itself*? The bee will often produce a rich harvest, without any care on the part of the owner; but that such a result, should generally be the case, is more than we ought to expect.

I have said, and do still contend, that every prime family of bees, is *one hundred dollars in interest*; that is, equivalent thereto! It is but a small affair, to make bees, taking one family with

another, net their owner seven dollars per annum. Every stock or hive may not produce that amount in honey; but, counting the natural increase, at the lowest possible value, and the sum with increase and honey, is more than made up, with correct management. Here arises the question, what is *correct* management? I have only to say, that I think, that I shall soon lay before the public, a work, in my Manual, that will throw all the light on the subject that can be desired; and perhaps others have said the same before me; yet, "a tree is known by its fruits," and I will leave the matter with those who are familiar with my essays, published in the American Agriculturist, during 1846-7-8, to say, whether a work of merit may, or may not, be expected.

The hives represented below, are a style that I have recently constructed, of great beauty, and

will not admit of such an elucidation. I will however, say, that no other method of resting hives is superior to the above-mentioned plan, as I shall illustrate the same, in my treatise on the bee. I shall also give clear, and I trust conclusive reasons, for the use of open bee houses, instead of those that are enclosed.

In the foregoing cut, it will be perceived, that the roof projects over the posts. The object of this is, to shade the hives in the middle of the day, when the rays of the sun are the most powerful; and also, as a protection against storms, which are all that bees require.

The cost of such a bee house will be from \$30 to \$50, according to the labor bestowed on the ornamental portion thereof. It can be built very plain for a small sum; or a large sum may be expended to the improvement of its beauty. Every particular pertaining to this structure, will be fully discussed in my Manual; and various other original designs for bee houses, of a more economical nature, as well as numerous beautiful engravings of different bee hives, invented, or improved by me; also cuts of various hives in use in this country and Europe; together with several scenes as they actually occur, during the interesting season of swarming, of peculiar interest, will appear in my Manual, making it, with its beautiful typographical execution, the most valuable treatise on the honey bee that has ever appeared. No money has been spared in its production. The engravings, which will be very numerous, are being executed by Mr. J. D. Felter, No. 140 Nassau street, whose skill in wood engraving is unrivalled; and although much has been promised in regard to the high character of this work, yet half has not been told. Instead of 250 pages promised in the prospectus, I think that I shall have to make it 300, 12mo., since much valuable and highly-important matter would be excluded, in a less number of pages; and I am resolved to make this work, the *clearest, the most ample, and the most instructive and interesting* treatise of the age.

The above engraving shows a gentleman, who is expatiating on the beauties of his apiary, or perhaps the singular habits of the bee, in its domestic economy. The lady on his right is his consort, who, with their little son, has just returned from a promenade. The little boy is calling his mother's attention to the affright of the scampering little dog, that intruded too near to the hives, to suit the wary bees; and he seems to pay rather dearly for his temerity. The gentleman, intent on the wonderful economy of his bees, disregards the cry of "Cato," whose nose smarting from the effects of sundry stings, runs with full speed to a place of safety. For hives, see advertisement at page 70.

T. B. MINER.

New York, Jan., 1849.

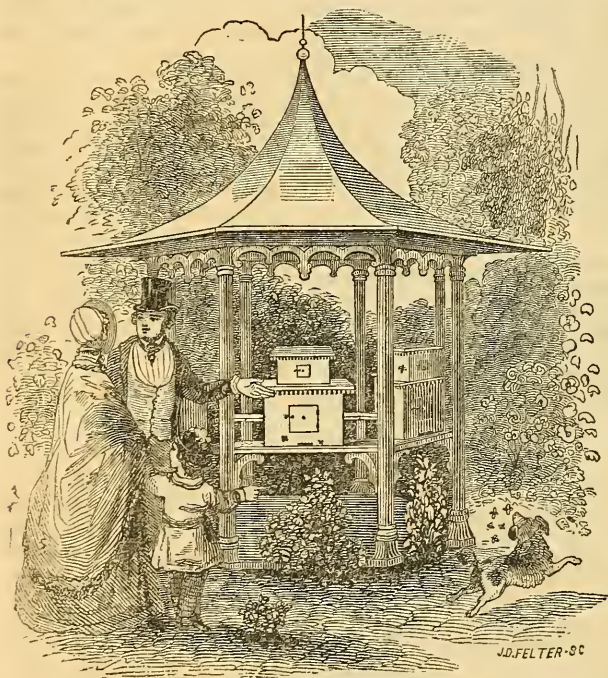


FIG. 7.

merit. This hive is intended to be ornamental, or otherwise, as the apiarian may choose; yet the embellishments cost but a trifle, and in its ornamental state, no other hive can begin to compare with its general beauty of proportions and architecture. The cut gives but an imperfect illustration of its true character.

This bee house, as the reader will observe, is *octangular* in its shape; that is, having eight sides; and consequently, affording room for eight hives. These hives rest upon an octangular stand within the posts, or columns, that support the roof of the house. The full particulars of the manner of arranging these hives, and the management of bees therein, together with directions in regard to the construction of the bee house, must be reserved for my Manual, since the space allotted me

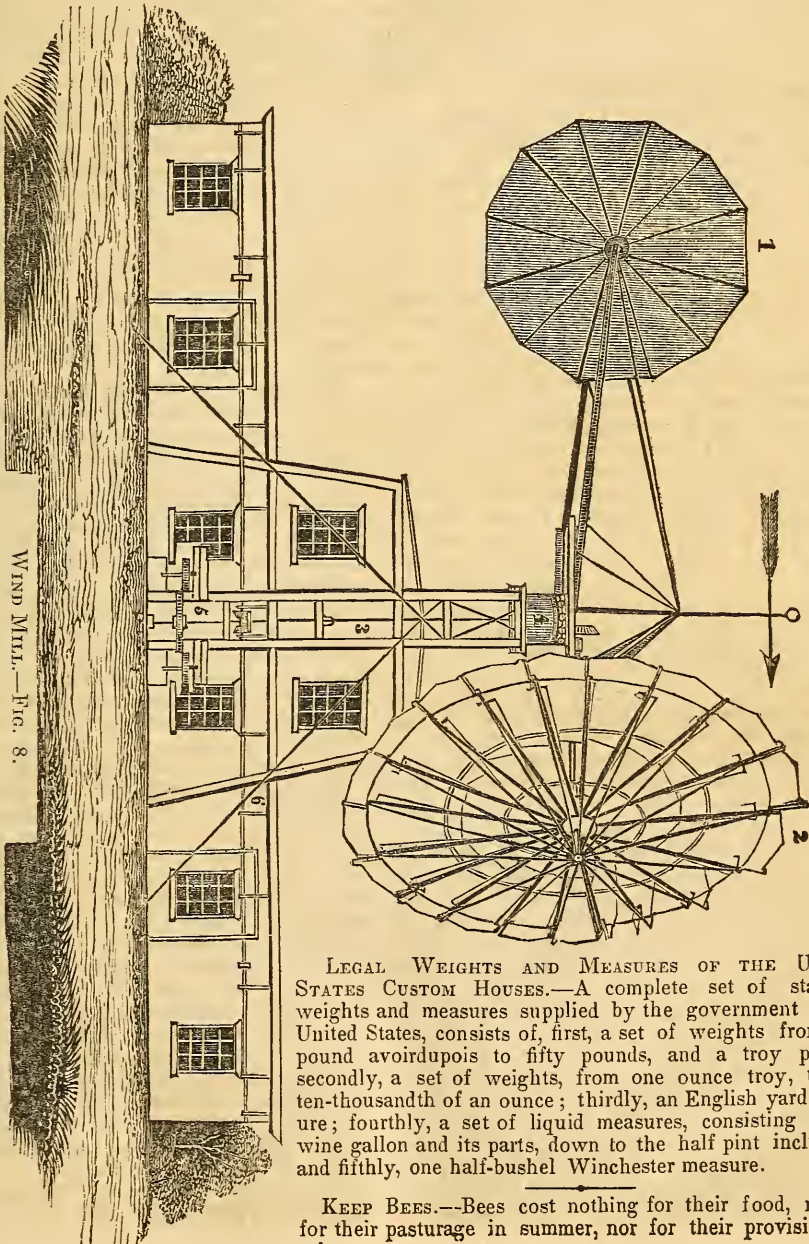
PAGE'S STATIONARY WIND MILL.

THE figure and explanation below will enable the reader to judge, in a measure, of the construction and appearance of a stationary wind mill, lately invented and patented. In addition to the usual application of machines of similar construction, such as grinding corn, sugar cane, churning, raising water, propelling sawmills, &c., the inventor proposes to establish a water power, by pumping up water, by wind, from a pond or well, into a reservoir of several acres, which, when filled, he

would apply to a water wheel, as in a river or stream.

Several of these wind mills have been erected in different parts of the country, at the south, as well as at the west, and orders are said to be multiplying for them from places where they have not previously been introduced. One has been put up in Rhode Island, by Mr. Josiah Chapin; another at Brushville, Long Island, by B. F. Manice, Esq.; and a third at Richmond, Staten Island, by Mr. S. J. Russ. The prices vary, according to size and mode of construction, say from \$100 to \$1,500.

Explanation.—1, denotes the vane, or tail piece; 2, the main wheel; 3, the tower; 4, the round top; 5, the millstones and gearing; 6, the main line of shating through the shop, with the view of the interior of the building, gearing, &c.



LEGAL WEIGHTS AND MEASURES OF THE UNITED STATES CUSTOM HOUSES.—A complete set of standard weights and measures supplied by the government of the United States, consists of, first, a set of weights from one pound avoirdupois to fifty pounds, and a troy pound; secondly, a set of weights, from one ounce troy, to one ten-thousandth of an ounce; thirdly, an English yard measure; fourthly, a set of liquid measures, consisting of the wine gallon and its parts, down to the half pint inclusive; and fifthly, one half-bushel Winchester measure.

KEEP BEES.—Bees cost nothing for their food, neither for their pasturage in summer, nor for their provisions in winter.

LETTERS FROM CALIFORNIA.—NO. 1.

My former hurried letters, written on my pack saddle, by the light of the camp fires, or while taking a brief siesta after a hasty meal in the middle of the day, have been dispatched from time to time as I could find opportunity. I trust they have been received, as they have given a bird's eye view of the agricultural capabilities of the country through which we have passed, since leaving Missouri for this far-western region. The messengers employed were such wayfarers as chance threw in my way—trappers, itinerant merchants, alias pedlars, and occasionally, a returning emigrant; and I must confess to my frequent misgivings as to the safety of my missives, though I can't but hope some of them have arrived to afford the readers of the *Agriculturist* a slight inkling of the future prospects of this far-off region. (a)

Much of the country I have wandered over, in my journey hither, will probably forever remain incapable of cultivation; and plains, precipitous mountains, deserts of sand, and occasional forests, groves, and openings, with some grass-producing valleys and prairies between, make up no inconsiderable share of my whole course to this point, since leaving the frontier settlements of the once—now, alas! no longer, extreme western states of the Union. I know not how to account for the feeling of occasional sadness which comes over me, in the reflection that this is now a part of my country! So far away from all my early associations—so new, so strange, and inconceivable—it seems like a new stepmother, or near relative, just added by recent alliance, that a diffident lad knows little of, and even that little is not prepossessing—rather repulsive than otherwise, to an over-sensitive, retiring youth. Yet, why should I regret? Louisiana, Florida, Texas, were once, and but a few years since, the territories of France and Spain. Ultra foreigners in language, birth, race, habits, manners, and religion! but now naturalized, fraternized—incorporated with that all-pervading solvent and amalgam, the universal Yankee nation. Strange names of straits, rivers, countries, and what not, that only a few years ago, looked like the cabalistic words that grace Alladin's magic lamp, and the fairy tales of eastern romance, are now as familiar as household words, and make up a part of our every-day newspaper reports. Thus push we the bark of enterprise, adventure, conquest, and commerce along, till we are fairly installed on the mountain heights that overlook the broad Pacific. Here am I, a confirmed emigrant, one of the foremost of that pioneer, pilgrim band, that starting from the north Atlantic shore, pursue the setting sun in his course, and are destined to follow him over the islands of the Pacific and Indian oceans, China, India, Persia, Arabia, Asia Minor, Turkey, and the intermediate places, to the spot where they set out. This looks to me as the destiny of the Saxon, or Anglo-American race. If they fail in carrying it out, it will be from their losing a part of that roving, restless (and, were it not for the alliteration, I would say), resistlessly-reforming principle, that has hitherto impelled them to come in contact with everything, and renovate everything they touched. So operative will be these national characteristics, that California will soon be Califor-

nia no longer. The hordes of emigrants and adventurers, now or soon to be on their way here, will speedily convert this wild, cattle-breeding, lasso-throwing, idle, bigoted, bull-baiting race, into an industrious, shrewd, trafficking, Protestant set of thorough-going Yankees. But I am going to give you a description of the agricultural aspect of the country, not an enthusiastic anticipation of what Yankeeedom is here eventually to be.

California Alta (Upper California), extends from Oregon on the north, lat. 42°, to Old, or Lower California on the south, and from the Rocky Mountains on the east, to the Pacific. Of this extensive tract, between 600 and 700 miles square, and containing nearly half a million square miles, only a comparatively small part is suited to cultivation. This extends along the plains and valleys within 150 or 200 miles of the sea coast, and even this limited region is interspersed with numerous ranges of mountains, incapable of cultivation, extensive low, marshy lands, and many plains that will scarcely repay the trouble and cost of tilling. Yet, who shall assign a limit to the future population of California? There are still innumerable valleys and fertile plains, suited to every species of vegetation that grows without the tropics. Corn, wheat, the grasses, melons, and especially the vine and olive, grow here in great luxuriance, besides peas, beans, lentils, and whatever can minister to the sustenance of man.

The valley of San Joaquin, where I now am, is one of the most magnificent in California. It is nearly 500 miles long by 50 wide, through the whole length of which this river flows. It receives also numerous other streams, all, however, originating among the mountains bordering it upon the east. Many of them, as well as most others flowing into the Pacific, north of 35°, are filled with the most delicious salmon for a part of the year. The accounts I read when a boy, of the prodigious quantities of this prince of the finny tribe, in the waters of the Oregon territory, amazed me; yet, the abundance and quality, perhaps, scarcely surpassed those resorting to the New-England rivers in the early settlements of the country, when the municipal authorities of Rhode Island forbid the masters to force salmon upon their apprentices, beyond a certain number of meals in each week.

The agricultural capacities of this valley are fully equal to those east of the Rocky Mountains. The soil is good, much of it being clay, and running from this, through every variety of loam, to a diluvial sand. There is a considerable portion of this country, so far as I have seen, consisting of *oak openings*, similar to those I once saw in riding through the then new territory of Michigan, a dozen years ago. The soil through these is not of the richest quality; but much of that, where the orchards of evergreen oaks abound, is of great fertility and enduringness. The effects of these beautiful groves of perennial oak are almost enchanting. English parks, or rather their natural trees and foliage, will not compare with them. They grow generally isolated, but not unfrequently in clusters, more or less intermingled with other native trees, and thus produce the most pleasing effects.

The country is wretchedly cultivated, as you may well suppose. Here and there a straggling

Indian half-breed, or squalid Mexican, who is no better than his predecessors, is seen with his *guisot*, a rude, pointed iron, like a crowbar point, which is the only implement used for planting, weeding and cultivating their maize. Besides this, they have the *cavador*, a rough socket chisel, for planting and cultivating tobacco. The *coas* is a kind of shovel in the form of a veterinarian's flem, being a flat surface, projecting from a straight line, in the direction of the handle, of about eight inches in length, by seven in width. The hoes are pieces of thin iron, ribbed in the middle by a thicker iron, to give them strength, and are from 10 to 13 inches long, by three to four and a half wide, and bent in the form of a sickle. These, with a few coarse axes and briar hooks, constitute nearly the sum total of their agricultural tools. A section of the trunk of a tree, some 10 or 12 inches thick, forms the wheels of a rude wain or cart. The horses and mules are never shod; and untanned hides make up what little harness attaches them to their sledges or carts. Most of their use of horses is confined to the saddle and lasso. These, with a spirited horse, constitute their charter and bill of rights to go where, and do what they choose. When these are at command, and they can shoot a fat bullock at will, there is little temptation for them to abandon their independent seat, and betake themselves to the mere drudgery of a fully civilized life. They raise only what is essential to keep them from starvation, which is provided by their beans, corn, wheat, and a few roots.

Now and then, I meet with a live Yankee in these remote regions—men, who, in pursuing the bent of an original proclivity for wandering, have strayed into the wilds of California—soon destined to be wilds no longer. One of these (a naturalized, not original Yankee), has near 40,000 bushels of wheat on the ground; and, if properly harvested, will, at the high prices he is likely to realize, yield him a fortune that would satisfy even a gold digger. Some others have large *haciendas*, or *ranchos*, and rear immense herds of cattle, horses, and sometimes grow large quantities of grain. These men will make immense sums from their lands. At the present moment, *gold* is the leading, and almost only subject that claims attention. Every one is rushing to the mines, which seem to be almost as extensive as the valleys of the Sacramento and Feather Rivers, and their tributaries. It is supposed that the Sierra Nevada, that bounds these valleys on the east, is the father of all the gold washings below, and that when they get at the bowels of this, they will have found the *ovary* of the *goose* with the *golden eggs*! If we are not wholly misinformed by many intelligent, reflecting, veracious men, there is gold enough to last the hordes, that will be pressing here, as soon as the news reaches the Atlantic border, for many years. Of this I cannot speak advisedly, but will endeavor to inform myself authentically, and write you particularly in my next. But of this, however, I can confidently advise my countrymen at home. They should bring plows, shovels, hoes, scythes, grain, cradles, fanning machines, horse powers, &c., in large quantities; for here will soon be congregated hundreds of thousands, who *must be fed*. The soil and cli-

mate will do its part; it remains for man to do his, and plenty, rather than dearth, will attend the settlers. Gold is desirable anywhere; but gold will not buy what can't be had, or does not exist, at least within reach, and food must be raised *here*, or we shall all be liable to starvation. Let reflecting men, therefore, come prepared with a full supply of well-assorted agricultural implements, to raise their own provisions, at least; and, perhaps, they may be more advantageously employed in raising them for the gold diggers, than in digging for themselves—consider this advisedly.

If gold be the object here, let me advise all to come prepared for it. Get good machines, the best you can procure, for washing out the gold in quantities, and rapidly. Also horse powers for working these and mills; ox scrapers, wheelbarrows, wagons, tents, rifles, good blankets, and imperishable provisions, enough to last a year. If emigrants have any whiskey or brandy along, let them throw it overboard, and confine their beverage to tea or coffee. Intelligence, prudence, industry, and temperance, will, in a few years, amply provide a man here with a competency, and probably a fortune. I will give you more minute accounts of all in my next. ***

Valley of San Joaquin, California Alta, }
October 2d, 1848. }

(a) We are sorry to inform our correspondent and readers, that this is the first of the letters we have received from him, since leaving the valley of the Mississippi, in April last. We regret this the more, as every information on this interesting region, which will soon be thronged by emigrants to the golden land of California, will not fail to be duly appreciated. We trust the noble line of steamships, soon to be established on the Pacific, will, hereafter ensure their regular reception.

GRASSES, MEADOWS, AND PASTURES.—NO. 1.

THE order designated by naturalists as *graminæ*, is one of the largest and most universally diffused in the vegetable kingdom. It is also the most important to man, and to all the different tribes of graminivorous animals. It includes not only what are usually cultivated as grasses, but also rice, millet, wheat, rye, barley, oats, maize, sugar cane, broom corn, the wild cane, and the bamboos, the last sometimes reaching sixty or eighty feet in height. Grasses are invariably characterized as having a cylindrical stem; hollow, or sometimes, as in the sugar cane and bamboos, filled with a pith-like substance; with solid joints and alternate leaves, originating at each joint, and surrounding the stem at their base and forming a sheath upwards, of greater or less extent; and the flowers and seed are protected with a firm, straw-like covering, which is the chaff in the grains and grass seeds, and the husk in Indian corn. They yield large proportions of sugar, starch, and fatty matter, besides those peculiarly animal products, albumen and fibrin, not only in the seeds, but also, and especially before the latter are fully matured, in the stems, joints, and leaves. These qualities give to them the great value which they possess in agriculture.

Of the grasses cultivated for the use of animals, in England, there are said to be no less than 200

varieties; while in the occupied portion of this country, embracing an indefinitely greater variety of latitude, climate, and situation, we hardly cultivate twenty. The number and excellence of our natural grasses are probably unsurpassed in any quarter of the globe, for a similar extent of country; but this is a department of our natural history, hitherto but partially explored, and we are left mostly to conjecture, as to their numbers and comparative quality. Their superior richness and enduringness may be inferred, from the health and thrift of the buffalo, deer, and other wild herbivora; as well as from the growth and fine condition of our domestic animals, throughout the year, when permitted to range over the woods, and through the natural prairies and bottom lands, where these grasses abound. The writer has seen large droves of the French and Indian ponies come into the settlements about Green Bay and the Fox River, in Wisconsin, in the spring, in good working condition, after wintering entirely on the natural grasses and browse north of latitude 44°.



FIG. 9.

at one cutting.

Sinclair estimates its value for hay, when in seed, to be double that cut in flower. From its increased value when ripe, it is cut late; and in consequence of the exhaustion from maturing its seed, it produces but little aftermath, or rowen. For milch cows, or young stock, it should be cut when going into flower, and before the seeds have been developed, as it is then more succulent. It vegetates early in the spring, and when pastured, yields abundantly throughout the season. Both the grass and hay are highly relished by cattle, sheep, and horses; and its nutritive quality, in the opinion of practical men, stands decidedly before any other. It is also a valuable crop for seed, an acre of prime grass yielding from 15 to 25 bushels of clean seed, which is worth in the market from \$1.50 to \$4.50 per bushel; and the stalks and the chaff that remain, make a useful fodder for most kinds of stock.

It may be sown upon wheat, or rye, in August or September, or in the spring. When sown either alone, or with other grasses, early in the season, and on a rich soil, it will produce a good crop the same year. From its late ripening, it is not advantageously grown with clover, unless upon heavy clays, which hold back the clover. I have tried it with the northern, or mammoth clover, on clay, and found the latter, though mostly in full blossom, still pushing out new branches and buds,

when the former was fit to cut. The quantity of seed required per acre, depends on the soil and its condition. Twelve quarts, on a fine mellow tilth, are sufficient, and equal to twice this quantity on a stiff clay. Heavier seeding than this may be practiced with advantage, and especially where it is desirable to cover the surface with a thick sward.



FIG. 10. FIG. 11. FIG. 12.

Meadow Fox Tail (*Alopecurus pratensis*), Fig. 10. This is a favorite grass in England, both for meadows and pastures. It grows early and abundantly, and gives a large quantity of aftermath. It is best suited to a moist soil, bog, clay, or loam. It is indigenous to the middle states.

Smooth-Stalked Meadow, Green-Spear, or June Grass, the erroneously-called *Blue Grass of Kentucky* (*Poa pratensis*), Fig. 11, is highly esteemed for hay and pasture. It is indigenous and abounds through the country, but does not appear to reach its perfection north of the valley of the Ohio. It is seen in its glory in Kentucky and Tennessee. The seed ripens in June and is self-sown upon the ground, where the succeeding rains gives it vitality; and it pushes out its long, rich, slender leaves, two feet in height, which, in autumn, fall over in thick windrows, matting the whole surface with luscious herbage. Upon these fields, which have been carefully protected till the other forage is exhausted, the cattle are turned and fatten through the winter. It maintains its freshness and nutritive properties in spite of frost, and the cattle easily reach it through the light snows which fall in that climate. A warm, dry, calcareous soil seems to be its natural element, and it flourishes only in a rich upland.

The Roughish Meadow Grass (*P. trivialis*), Fig. 12, has the appearance of the *Poa pratensis*, but its stalk feels rough to the touch, while the other is smooth. It has the further difference of preferring moist or wet loams, or clay. It yields well and affords good hay and pasture.—*Allen's American Farm Book*.

SUBSTITUTE FOR THE POTATO.—M. Masson has lately grown a new root, called the *ulluco*, which can, it is thought, replace the potato. It originally came from Peru, and grows perfectly well in the open air; the flavor is very near the same as that of the potato. The part above ground furnishes a very agreeable vegetable, something like the bean in flavor. Three crops of the green part can be obtained in the same season.—*Paris Paper*.

YANKEE FARMING.—No. 9.

Good people all of every sort,
Give ear unto my song;
And if you find it wondrous short,
It cannot hold you long.—*Goldsmith.*

LET my readers take it for granted, that a little over a year had elapsed since the scene of the "improvement of bog meadows," described in my last; and that we are now in the wane of the month of September. Little rain had fallen for the seven weeks previous, the weather had consequently been very favorable for working in marshy or boggy ground, for the streams and springs had become quite low.

Passing along the high road near Joe Watkin's, I thought I would take the opportunity of calling to see how he had finished ditching his meadows. As I approached the lower part, I espied him and Cæsar hard at work there, with their backs toward me; the latter cheering their labor with a song, which he probably made up (*improvisatized*), as he went along.

Oh, wish 'em back to old Virginny,
Where corn and 'backy grows so high
As dem are tree down in de meader,
Dat make old Cæsar grin and sigh.

Whar coon and possum fat right plenty—

Here he smacked his lips, drew a long breath, and after delivering himself with extra energy of a prodigious great shovel full of mud, fresh excavated from the wide ditch where he was working, he began again—

Whar coon and possum fat right plenty,
To butter 'tater sweet and big;
And when I run 'em down and catch 'em,
My Susy roast de little pig.

But dar come Massa Sargeant sllly,
He tink I neber see 'em now;
Ef he can catch dis nigger sleepy,
Oh, den I does n't say bow wow!

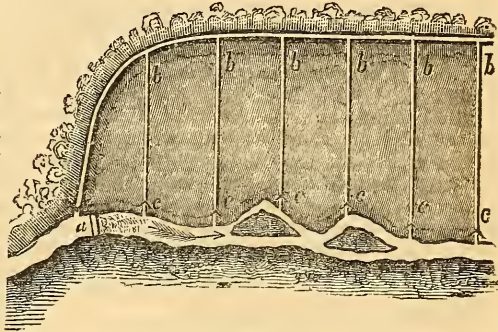
Here he turned round and fronted me full in the face, put on a furious look, imitated the barking of a great savage dog, then bursting into a loud laugh, lay down on the green sward, and rolled over and over, seemingly delighted with himself and performance.

You foolish fellow, said I, a little angrily, what do you act so for? Get up and go about your business again. But how did you know, Cæsar, that I was here, when, as I came up, you were at work with your back towards me? "I see 'em atween my legs, when I stoops down shovelin'," was his answer. Oh, that is your way, is it? Well, I'll look out for you another time, and catch you by your woolly pate before you suspect my approach. "Jest as you say," and he looked up as cunningly out of his black eyes as a sly mink, "but ef you does, den you may knock your fist agin it, jest to see 'em which de hardest," he added, breaking out into another hearty fit of laughter. "And don't be mighty mad now, Massa Sargeant, when I tells 'em, better practice on a white-oak knot fust, to harden 'em knuckles." A very good hint, I replied, for of the two, I dare say your head would not prove the softest, there seems to be so little sense in it just at this moment.

But, Joe, you are coming on bravely here, I see, and have about finished your whole meadow with the good-humored Cæsar's help; and well done it

is, too, really. Why you deserve a gold medal; and if we had a flourishing state agricultural society now, as they have in New York, I would petition to have one conferred upon you, for your timely and judicious improvements. "Pshaw, sartin," says Joe, at the same time blushing and looking a little sheepish at my commendations; "yet would you b'lieve it, Sargeant, Uncle Sim is r'ally goin' to beat us." Indeed! "Yes; he and the boys has been out at work, as he bragged he would, steady as so many beavers ever since they finished hayin'—they haven't gone a fishin' once this summer." Glad to hear that, Joe; let's go up and take a look at it.

We then quickly walked to the head of Watkins' meadow, leaped the dividing fence between him and Uncle Sim, and soon crossing to the upper half of Mr. Doolittle's property, found in reality that he had ditched about ten acres of his boggy ground in the most judicious manner. I was so pleased with it that I made a sketch of the improvement, at once, and here subjoin it for the better understanding of my readers.



IMPROVEMENT OF BOG MEADOWS.—FIG. 13.

a, is a dam thrown across Silver Brook, where there is a fall of five feet or so.

b, *b*, &c., a ditch several feet deep, running along the base of the upland, adjoining the bog meadow from which issue a number of springs into the meadow, keeping it constantly wet. This ditch now cuts them all off, and gives the low boggy ground a chance to dry.

c, *c*, &c., ditches running nearly at right angles with the main ditch *b*, *b*, &c., to carry off the spring water, and assist also to drain the meadow to the right and left.

An embankment is thrown up, along the margin of Silver Brook, which prevents its overflowing, except at very high water. Gates are placed at the head of the large ditch, *b*, *b*, &c., and at the foot of each ditch, *c*, *c*, &c., which can be opened or closed at pleasure. When it is required to draw off the water, from the meadow, the gates at *c*, *c*, &c., are kept open; but when it is wished to irrigate it, they are shut, and the gate at *a*, to let water from the brook into *b*, *b*, &c., opened, which floods it immediately. Thus, when too wet, the water is drawn off, and when too dry, it is let on; so that a great growth of grass is ensured every year, let the weather be what it may. As the soil is a rich, vegetable mold, I am perfectly confident, that, with the aid of the

rich sediment, annually deposited on it by the waters of the brook, its fertility may be kept up as long as the world lasts; so that the manure made from the consumption of the hay on the meadow, need not be returned to it, but may be used annually to enrich the uplands. This is what I call a precious farmers' mine, too many of which have, alas! never yet been worked in our country; and I fear, may not be for ages, leaving them to the production of a poor, coarse, watery grass, scarcely worth cutting. Enough of this, however, for the present, though I intend to resume the subject in my next, as I have yet to explain to Mr. Watkins, and the redoubtable Caesar, the fertilizing qualities of water, and what it holds in solution and otherwise, that so greatly benefits the land.

SEERGEANT TELTRUE.

WINE MAKING IN RHODE ISLAND.

MR. HORACE VAUGHN, of East Greenwich, Rhode Island, has made, the past season, one hundred barrels of wine from the vines growing wild, within a few miles of that place, thus showing the productiveness of the vine in this state. It is probably a fact, that there are more varieties of the wild grape growing in this state, comprising the black, purple, red, and white, than in any other state in the Union.

Mr. Vaughn has made the same kind of wine for several years, and finds quite a demand for it with churches for communion purposes, where it gives entire satisfaction; for he uses no alcohol in its manufacture. In fact, it is a very good wine, and shows that we are able to supply the article ourselves, without using the foreign adulterated "stuff," usually sold under the name of wine.

A. C. M.

Warwick, R. I., Dec. 18th, 1848.

PRODUCTIVE FARMING.

MR. JAMES C. CORNING, of Newtown, Bucks county, Pennsylvania, has favored us with the following amount of products, as sold from his farm of 125 acres, in the year 1848:—

Wheat, 516 bushels,	-	-	-	620.00
Rye, 50 bushels,	-	-	-	40.00
Oats, 1,000 bushels,	-	-	-	375.00
Indian corn, 17 acres, or 1,037 bushels,	-	-	-	621.00
Timothy seed, 4 bushels,	-	-	-	16.00
Potatoes, 100 bushels,	-	-	-	60.00
Apples, 500 bushels,	-	-	-	125.00
Hay, 70 tons,	-	-	-	840.00
Sheep and lambs,	-	-	-	25.00
Calves, 14 in number,	-	-	-	95.50
Swine, 20 in number,	-	-	-	240.00
Poultry and eggs,	-	-	-	125.00
Butter, from Feb. to Oct., 3,708 lbs.,	-	-	-	974.08

Total, - - - \$4,156.58

The stock remaining on the farm, on the 12th of December, consisted of 5 horses, 2 colts, 20 milch cows, 1 bull, 2 heifers, 10 sheep, and 1 breeding sow.

How to GROW RICH.—If you would grow rich and thrive, always take care that the *incomings* amount to more than the *outgoings*.

AGRICULTURAL EDUCATION.

AFTER so long a delay, we have for the first time in the history of the United States, the official recommendation from a chief magistrate, for the establishment of agricultural colleges and schools. All honor to Governor Fish for this first recognition from the gubernatorial chair, of the paramount claims of agricultural education. We trust this suggestion will be promptly followed up by the legislature, and that we may have *acts* to record in favor of this great interest; for we have had enough of words.

We have been amused from year to year, at the classification of the legislative Solons of this state, nearly nine tenths of them assuming to themselves the honorable occupation of farmers; yet with the petty exception of a few thousand dollars annually bestowed on the state and county agricultural societies, we are without any aid from this host of legislative farmers. We shall soon see whether they think public opinion is sufficiently developed on this subject, to follow out the enlightened suggestions of Governor Fish.

AUGUST FELLING TIMBER.

IN the American Agriculturist for this month is the following recommendation:—

"In cutting timber, of all kinds, advantage should be taken of the season which will favor their duration and strength. Thus, oak and most other kinds of non-resiniferous trees, as far as the knowledge of practice extends, are stronger and more durable when felled in early winter, at the time the pores contain but little sap." As this season for cutting timber for any purpose, either building, fencing, or firewood, is so at variance with my experience for more than forty years, in its durability and strength, or good quality for fuel, I thought it might benefit the agriculturists of the country to know the proper time for cutting all kinds of timber in this section of country.

If oak, hickory, or chestnut timber is felled in the eighth month (August), in the second running of the sap [The descent of the autumnal sap in the bark?—Eds.], and barked, quite a large tree will season perfectly, and even the very twigs will remain sound for years; whereas, that cut in winter, or spring, and remains until the next fall, the limbs (as thick as one's wrist), will be completely sap-rotten, and will be almost worthless for any purpose. The body of oak split into rails will not last more than 10 or 12 years. Chestnut will last longer, but no comparison to that cut in the 8th month. Hickory cut this month is not subject to be worm eaten, and will last a long time for fencing.

When I commenced farming, in 1802, it was the practice to cut timber for post fencing in the winter. White-oak posts and black-oak rails, cut at that time, I found would not last more than 10 or 12 years. In 1808, I commenced cutting fencing timber in the 8th month. Many of the oak rails cut that year are yet sound, as well as most of those formed of chestnut. If the bark is not taken off this month, however, it will peel off the rails itself, the second or third year, and leave the sap perfectly sound. The tops of the trees, also, are

much more valuable for fuel than when cut in winter or spring.

I advise young farmers to try the experiment for themselves; and if post fence will not last twice as long, I forfeit all my experience as worthless.

WILLIAM PAINTER.

Concordville, Del. Co., Pa., 1 mo. 1st, 1849.

SPRING FELLING TIMBER.

SEEING an article in your January number, on the proper time for felling timber, I would just say I differ in opinion with the article in question. I have for the most part cut my timber, for rails and posts, for the last ten or fifteen years, as early in the spring (say last of April, or first of May), as to get off the bark conveniently, and secure a growth of sprouts from the stumps. And I have no reason to return to the old custom of winter cutting, which practice originated from the fact that farmers had more leisure than in the spring.

This will apply, also, to the erroneous habit of trimming fruit trees in February, which I consider the most fruitful source of decay in orchards, and imperfect quality of fruit.

HENRY BAKER.

Pennington, N. J., December 30th, 1848.

Here we have two communications from practical farmers, whose intelligence and veracity we have no reason to question; yet, their opinions, it will be perceived, are at variance with each other, as regards the proper season for felling timber, and doubtless both are right, so far as the barking of fence rails is concerned, which should always be done, whether they are cut in winter or summer.

The views on this subject, heretofore expressed by us in the Agriculturist, are corroborated by a long series of experiments, instituted by the Board of Admiralty of Great Britain, as well as by the Navy Commissioners of the United States.

RAT CATCHING.

THE professed rat catchers in England are in the practice of using both the oil of rhodium, and the oil of anise to draw rats from their holes, in order to kill them. Dr. J. V. Smith, of Boston, lately stated at an agricultural meeting, the complete success of an experiment in which he used the oil of anise alone, when the rats immediately came out of their retreats, even while he was present. He also said that ground plaster of Paris (gypsum), well mixed with dry meal, will be eaten greedily by rats and mice, and that it becomes hard in their stomachs and kills them. Nux vomica powdered, and mixed with Indian meal or oat meal, will also destroy them, without danger to domestic animals, which are often injured, and sometimes killed by other kinds of rat poisons.

The following ingenious mode of catching them is often successfully practiced in my part of the country, from twelve to twenty having been caught in one night:—We place in the barn, or near the corn crib, a barrel or deep tub, half full of corn meal, oats, or any other food, of which rats or mice are particularly fond, and let them eat of it for a night or two, to attract them to the spot. Then empty out the corn, &c., and replace it with water; cover the water with thin flat shavings, and

strew over them a thick layer of their favorite food. The rats will jump into the barrel as usual, slip through the covering of shavings, and will be drowned in their efforts to get out. E. S.

SPECIAL MANURES.

WE condense from an article in the Agricultural Gazette, by Mr. Prideaux, the following information on the actual quantities of the essential inorganic ingredients carried off from an acre of produce of our leading agricultural crops, which are to be restored to the land in order to maintain its fertility:—

	Potass in lbs.	Soda in lbs.	Magnesia in lbs.	Phosphoric acid in lbs.	Sulphuric acid in lbs.	Chlorine in lbs.
Wheat grain 25 bshls.	7.15	2.73	3.63	15.02	0.07	
Straw 3,000 lbs.	22.44	0.29	6.89	5.54	10.49	1.97
Total....	29.59	3.02	10.52	20.56	10.56	1.97
Barley grain 40 bshls.	7.24	4.32	3.97	20.74	0.06	0.02
Straw 2,650 lbs.	10.29	0.92	6.25	5.02	2.66	1.58
Total....	17.53	5.24	9.22	25.76	2.71	1.60
Oats grain 50 bushels.	10.83		3.52	14.48	5.23	0.35
Straw 3,800 lbs.	64.73		8.95	5.38	9.95	8.51
Total....	75.66		12.47	19.85	15.23	8.86
Beans grain 25 bshls.	13.60	4.30	3.15	15.30	0.40	0.30
Straw 2,800 lbs.	90.21	2.72	11.38	12.32	1.85	4.35
Total....	103.81	7.02	14.53	27.62	2.25	4.65
Red clover.....	26.70	7.07	4.45	8.80	5.98	4.86
Potatoes 8 tons.....	222.56	7.44	21.08	50.20	54.48	17.04
Tops 1,000 lbs.	50.44	29.27	12.76	13.72	12.38	22.19
Total....	273.00	36.71	33.84	63.92	66.86	39.23
Turnips 20 tons.....	142.66	17.31	18.16	25.77	46.24	12.24
Tops 1,850 lbs.	88.52	16.76	9.58	28.80	38.31	49.75
Total....	231.18	34.07	27.74	54.57	85.05	61.99
Cabbage 20 tns. 900 lbs.	105	184	54	112	192	52

These, then, we have to restore to the land, after each of the crops specified. The straw, it is true, ought not to be carried off; but it is better not to reckon too close.

The best supply of phosphoric acid for the farmer will be bone dust; because the fossil phosphates, though cheaper, are so uncertain in strength that he would never know how much he was using. Genuine bone dust will contain about 25 per cent. of phosphoric acid; and will require one half its weight of salt, and one third its weight of strong sulphuric acid to soften and render it soluble; and these will also more than supply the sulphuric acid, soda, and chlorine. Brown sulphuric acid of specific gravity 1.75, is to be preferred where it can be had, as cheaper, although it requires one half instead of one third the weight of the bone dust. The little portion of magnesia will often be more than supplied in the lime used about the land; or if the limestone does not contain it, may be put in at very small cost, either in crude sulphate of magnesia, or in the bitter residual liquor of the salt works.

The potass is the most difficult. Pearlash contains about 50 per cent., and is rather dear. Potass of commerce is a little cheaper and stronger (say 60 per cent.), but not so readily procurable

dry. Weed and vegetable ashes of the farm, when clean, may contain 25 per cent., but are often so full of earth, &c., that they may be not half this strength. Wood ashes (if we average their potass at 3 per cent.), vary, also, and are not easy to get sound and genuine; and green vegetables, unburnt, must be rotted in compost before they can be mixed with the other ingredients. Crushed granite, (averaging 7 per cent. potass) digested with lime, although the materials are inexhaustible, is not yet in the market; and must be used, when it does come, in increased proportion, from its slow solubility; but will still be much cheaper and more certain, as well as far more durable, than any other potass manure.

Our wheat crop, then, will require, including the straw, phosphoric acid, $20\frac{1}{2}$ lbs., which will take bone dust, 80 lbs., with 40 lbs. salt, and 40 of the cheap (or 27 lbs. of the strong) sulphuric acid—which will also more than supply the soda, sulphuric acid, and chlorine. The $10\frac{1}{2}$ lbs. of magnesia (if not contained in the lime of the usual course), may be supplied by $\frac{1}{2}$ cwt. of crude sulphate of magnesia, or 10 gallons bittern liquor from the salt house, and the $29\frac{1}{2}$ lbs. of potass (of which $\frac{1}{4}$ is in the straw), by 50 lbs. potass, or 60 lbs. pearlsh, or by about 120 lbs. common weed ashes (clean); or 5 to 10 cwt. common wood ashes; or in about 4 cwt. granite, of which, however, three or four times that quantity should be used, as above explained. In short, for every pound of phosphoric acid, we have to take 4 lbs. bone dust, 2 of salt, and 2 of acid, which clears, also, the sulphuric acid, soda, and chlorine. For every pound of potass nearly 2 lbs. of foreign potashes, or full 2 lbs. of pearlsh, or 4 lbs. (or more, according to its dirtiness, of weed ashes, or 40 to 50 lbs. of crushed granite; but this will last three or four crops); and for each pound of magnesia, 5 lbs. of crude Epsom salts, or a gallon of salt works bittern.

This gives us, by simple calculation, the following table of dressings per acre, for the crops above estimated; heavier crops, of course, requiring more, in due proportion:—

Dressings per acre.	Bone.	Salt.	Acid.	Sulphate magnesia.	Pearlsh.
Wheat.....	80	40	40	50	60
Barley.....	100	50	50	40	35
Oats.....	80	40	40	60	100
Beans.....	110	55	55	70	208
Red clover....	35	18	18	22	54
Potatoes.....	256	128	128	170	546
Turnips.....	220	110	110	140	462
Cabbage.....	448	224	224	270	210

These dressings will save many crops which now occasionally fail, for want of one or more of these ingredients; since they are, as before said, essential to the thriving of the plant.

SAVE YOUR EGG SHELLS.—Eggs that are to be used for puddings, custards, &c., should be nicely cleaned, before they are broken, with a cloth dipped in strong vinegar. Then, if after being emptied of all but the white that always remains sticking to the inside, the shells are spread out and dried. They serve as well for clearing coffee, as isinglass, or any other substance generally used for that purpose, with the additional advantage, that it costs nothing but a little forethought.

YELLOWS IN PEACH TREES.

As it can now no longer be doubted that peach trees will thrive in New Jersey, when judiciously managed, I propose to communicate an item omitted in my former notes.

I have not as yet met with a case of yellows in my new nursery, but have had abundant opportunity to test my theory elsewhere; I also see it yearly tested. It is a sure and certain remedy; a cure, not for the subject itself, but to prevent its propagation. Let every tree, small or large, presenting the *least appearance* of infection, be immediately *rooted out*, and, if convenient, be *consumed* by fire, not waiting for the premature crop to be gathered, as such fruit is *worse than none*; neither waiting for the tree to die on your hands; but, at any season, *root it entirely out* in each and every case. Then will your entire orchard always present a thrifty and healthy appearance.

W. DAY.

Morristown, N. J., Dec. 26th, 1848.

RELATIVE COST OF MATTRESSES.

Hair Mattresses.—These are generally sold by weight, and cost from 50 to 75 cents per pound; 30 or 40 pounds will cost \$15 to \$20.

Wollen Mattresses.—30 pounds of wool, at 30 cents per pound, \$9; 12 yards of ticking, at $12\frac{1}{2}$ cents per yard, \$1.50; labor, thread, &c., \$2.75—total, \$13.25.

Feather Beds.—40 pounds of feathers, at 30 cents per pound, \$12.00; 15 yards of ticking, at $12\frac{1}{2}$ cents per yard, \$1.87 $\frac{1}{2}$; labor, thread, &c., \$2.75—total, 16.62 $\frac{1}{2}$.

Moss, or Corn-shuck Mattresses, ready made, \$12. The labor of properly preparing the shucks constitutes its main cost, and which cannot be done for less than the above price, all materials furnished.

Cotton Mattresses.—30 pounds of cotton, even at 8 cents per pound, \$2.40; 12 yards of ticking, at $12\frac{1}{2}$ cents per yard, \$1.50; labor, thread, &c., \$2.75—total, \$6.65.—N. O. Paper.

A MUSICAL HORSE.

In the December number, 1848, we had a humorous account of an old jokester, "Yellow Ned." In the following, from the Providence Journal, we have another development of a horse's mind, an acute ear for music:—

A physician called daily to visit a patient opposite to my place of residence. We had a piano in the room on the street, on which a young lady daily practiced for several hours in the morning. The weather was warm, and the windows were open, and the moment the horse caught the sound of the piano, he would deliberately wheel about, cross the street, place himself as near the window as possible, and there, with ears erect, would he quietly stand and listen till his owner came for him. This was his daily practice. Sometimes the young lady would stop playing when the doctor drove up. The horse would then remain quietly in his place, but the first stroke of a key would arrest his attention, and half a dozen notes would invariably call him across the street. I witnessed the effect several times.

B.

Boys' Department.

AGRICULTURAL CHEMISTRY, No. 10.

THE subject next in order, and to which I shall devote the whole of this letter, is one of much interest, viz., *humus*.

When straw, leaves, pieces of wood, or any other species of vegetable matter is exposed to the action of air and moisture, with a moderately-warm temperature, a gradual change takes place. The elements which combined to form the solid structure of the vegetable matter are disunited, some of them returning to the air, the primitive source from whence they were drawn, and others forming new combinations, until finally all traces of the original texture are destroyed, and nothing but a black mass of the decayed substance is left. This is called *humus*, or vegetable mould, and you are, no doubt, familiar, from frequent observation, with its appearance. *Humus*, then, may be briefly defined as *vegetable matter in a state of decay*.

Now, every practical agriculturist knows, that when this substance (*humus*), is mingled with the soil, it is productive of much advantage to the succeeding crops; but if you ask an unenlightened farmer in what way his vegetable manure acts, or how his crops are benefitted by it, he will either candidly tell you he does not know, or he will manifest his ignorance still more plainly by a very absurd and unscientific explanation. If the same question be put to others who have given attention to the subject, with such aid as science affords, there will be found among them a diversity of opinion; for the question is one which science has not yet solved to the satisfaction of all minds. I would here observe that if science sometimes fails to grasp every truth within her sphere, this consideration should not lead you to distrust her usefulness, but rather stimulate you to more thorough investigations with the hope of bringing to light such truths as still lie concealed. When we reflect on what she has done and is still doing, we feel that we have no right to set limits to her powers, and that we may be constantly looking forward to still more brilliant achievements.

Humus has been frequently analysed, and numerous experiments have been made to test its various properties. As regards its chemical constituents, they will always be found to vary with the vegetables from which it is formed.

The volatile, or organic constituents of plants, viz., oxygen, hydrogen, carbon, and nitrogen, compose by far the greater part of their bulk or weight—usually over 90 per cent. These are called *organic* constituents, because they enter largely into the formation of all organic bodies, both animal and vegetable. All the other constituents of plants, including salts, and earthy or mineral substances, are called *inorganic* constituents. As the process of decay proceeds in the *humus*, the organic elements pass again into the air. The hydrogen of the vegetable matter unites with a portion of its oxygen, and passes off in the form of vapor; the remainder of the oxygen unites with a part of the carbon, forming carbonic acid, which also mingles with the atmosphere. What is left of the carbon (for there is not in vegetable fibre sufficient oxygen to consume it all), combines

with a portion of the oxygen of the air; and now the only organic ingredient left is nitrogen. This at the moment of its liberation, or in its nascent state, unites with a portion of hydrogen forming ammonia.

Such is the process which takes place when vegetable matter is decomposed at a temperature above 65°, and with free exposure to air and moisture; but as all these circumstances do not always combine, the process is subject to many variations, all of which, however, produce the same result, viz., the separation of the organic from the inorganic constituents. Now this process corresponds with combustion, or the change which vegetable matter undergoes when burned—the only difference being the time required for its completion—and what is left after the four volatile ingredients have been returned to the air, is precisely what would have remained in the form of ashes, had the vegetable matter been consumed by fire. This remainder, or ashes, rarely constitutes more than from 4 to 8 per cent. of the whole, and consists entirely of inorganic constituents, which are most of them variously combined in the form of salts. The ashes of rye straw contain the following salts: silicates of lime, potash and magnesia; sulphate of potash; chlorides of potassium and sodium; and phosphates of lime, magnesia and iron. In the *humus*, then, formed from rye straw, all these ingredients will be found, and will remain upon the land, or in the soil, where the decomposition of the *humus* takes place.

It has been supposed by many that nearly all the benefit derived from *humus* must be attributed to the carbon it contains. But the fact that plants requiring an enormous amount of carbon (as the trees of our forests), grow and thrive in soils entirely deficient in *humus*, and the facility with which all plants extract carbonic acid from the atmosphere, seem to prove that *humus* is not an essential source of carbon. These considerations, and others which might be mentioned, have led others to suppose that *humus* does not supply any carbon to plants, and some have gone so far as to oppose theory to the teachings of experience, and to maintain that *humus* is of little or no value in supplying food to plants. There are, however, few at the present day who deny the beneficial effects of *humus*; the only difficulty seems to be to determine in what way it acts. In giving my own views on this subject, I make no claim to infallibility, and will willingly discard them when farther investigations and discoveries shall prove them to be erroneous.

As regards the source of carbon, it has been proved beyond question, that the leaves of plants absorb a large amount of carbonic acid from the atmosphere. True, the carbonic acid escaping from the *humus* in the soil, may be absorbed by the moisture in the earth, and imbibed with it by the roots of plants—still, this quantity must be very small. But small as it undoubtedly is, it may contribute very materially to the nourishment of plants, when growth has just commenced, and previous to the development of leaves. Plants may also be slightly benefitted by the carbonic acid rising from the *humus* and mingling with the air which comes in contact with the leaves, though

the surplus amount of this gas, thus supplied to the air, must be too small to be deserving of much notice.

The decomposition of humus is also attended with the formation of ammonia. It has the power, also, of absorbing and holding within its pores a very large amount of this gas. All plants require a small portion of nitrogen—and chemists are united in the opinion that the nitrogen of plants is obtained from the ammonia which their roots imbibe. Hence, we may reasonably infer that manures, containing nitrogen, are of much value in furnishing this element to plants. There are many respectable chemists, however, who contend that the ammonia existing in the soil, together with that brought from the atmosphere by every rain, is always sufficient for the wants of the plant; and that we have no reason, under any circumstances, to expect much benefit from that furnished by artificial means. But repeated experiments made with nitrogenous manure furnish abundant proof of their value; though, owing to accidental causes, they may not always be productive of the same amount of good. In the sixth volume of the *Agriculturist*, page 302, you will find a short article giving an account of some very conclusive experiments on this point. I would also refer you to vol. v., p. 250, where you will find an excellent article from the pen of A. Beatty, on this subject; and in vol. vi. pp. 46 and 112, the same subject is continued. These letters of Mr. Beatty's, on the "Preservation and Application of Manure," are well worth your careful perusal.

Those who deny the value of nitrogen in manures, account for the beneficial effects of humus by saying, that it improves the texture of the soil and supplies it with those salts and other inorganic ingredients which are essential to the growth of vegetables, besides being of much service to some soils by its capacity for absorbing moisture. These are in reality considerations which ought not to be overlooked; and, I doubt not, the benefit obtained from humus is more frequently derived from these sources than from the nitrogen it supplies.

The manner in which humus promotes the growth of plants must vary with the conditions under which it is applied. When a soil is stiff, hard, and tenacious, it will be of service in improving the texture; when a soil is so loose and porous that crops grown upon it are liable to injury from drought, its power of absorbing moisture will be of much advantage; when a soil is deficient in nitrogen, and the crop to be raised upon it is one requiring a large supply of this element, the principal benefit of humus may be to supply this deficiency; and when any of the inorganic ingredients are wanting, humus will be able to supply them. According to these views, circumstances can rarely occur when humus will be of no service, though we cannot always expect equal advantages from its use.

Much more might be said on this interesting subject; but I have already extended my communication to a considerable length, and will close by advising you to seek further information from more elaborate productions.

J. Mc KINSTRY.

Greenport, N. Y. Jan. 1st, 1849.

SAGACITY IN THE BARN-DOOR FOWL.

THE interesting observations of E. S., in the Boys' Department for December, reminded me of an incident, that, to my mind, went very far to dissipate the distinction between *reason* and *instinct* in the brute creation. Had the elephant, the horse, or the dog, such convenient apparatus as two hands with four fingers and a thumb on each, our power over them would possibly be much less than it now is—particularly if they had the faculty of speech to communicate ideas, and transmit knowledge by tradition or otherwise. I have not the time, however, nor have you the space to spare for a lengthened discussion on the subject, but I will give your boys some facts and they can do up the reasoning for themselves.

I let my chickens run in a plot before my door, where I raise a number of the hardier descriptions of flowers, which they cannot injure much in their lawful pursuit of hunting up the thousands of marauding insects. Among the plants, last summer, was a tall sunflower, that bore a pretty luxurious crop of seeds. One afternoon, my attention was drawn to the operations of a rooster and his *coterie* of hens in the vicinity of the sunflower. He would walk back a few paces from the plant, and then run full speed and strike his bill against its stalk, when the hens would immediately busy themselves in picking up the spoils, which, I at first thought were insects. After watching the operations of the rooster awhile with his "battering ram," a hen came flying from a little distance, made a dive into the ripe sunflower with her bill, and with a simultaneous strong action of her wings shook down a plentiful repast of the ripe seed, which formed a delicious feast for her biped companions. I now saw into the philosophy of Chanticleer's proceedings; and on examining the stalk, I found the outside bark, for a certain distance, had all been chafed away by his repeated blows for bringing down the seed.

There seemed to be more science in Chanticleer's operations, but there were richer results from Biddy's plan; but both appear equally to prove a reasoning from cause to effect. Were the battering rams of the ancients for breaking down the walls of a city, a greater display of reasoning ingenuity than the rooster's method of bringing down the ripe seed? I think not.

J. B.

Harsimus, N. J., Jan., 1849.

WHAT THE STEAM ENGINE DOES.—It propels, it rows, it sculls, it screws, it warps, it tows, it elevates, it lowers, it lifts, it pumps, it drains, it irrigates, it draws, it pulls, it drives, it pushes, it carries, it brings, it scatters, it collects, it condenses, it extracts, it splits, it breaks, it confines, it opens, it shuts, it digs, it shovels, it excavates, it plows, it threshes, it separates, it winnows, it washes, it grinds, it crushes, it sifts, it bolts, it mixes, it kneads, it moulds, it stamps, it punches, it beats, it presses, it picks, it hews, it cuts, it slits, it shaves, it splits, it saws, it planes, it turns, it bores, it mortices, it drills, it heads, it blows, it forges, it rolls, it hammers, it rasps, it files, it polishes, it rivets, it sweeps, it brushes, it scutches, it cards, it spins, it winds, it twists, it throws, it weaves, it shears, it coins, it prints.

FOREIGN AGRICULTURAL NEWS.

By the Steamer Washington, we are in receipt of our foreign journals to the 19th December.

MARKETS.—*Ashes*, no change. *Cotton* very active, with a steady advance in prices. *Bread Stuffs*, a slight decline, and with so abundant a supply that, it is thought there can be no improvement for the present. *Provisions* rather more in demand. Nothing of moment in other matters.

Money still very abundant, and at a low rate of interest. American stocks continue to be sought for, to a moderate amount, for investment.

How to Kill Worms on Lawns.—Two ounces of corrosive sublimate, dissolved in a large quantity of water, is efficacious, and will not kill the grass, but it will kill other things and injure the grass, although not permanently. [Why not use lime water, which does just as well, and does no harm?—*Gard. Chron.*]

Extraordinary Turnip.—In the shop of Mr. Ewer, corn factor and seedsman, Salisbury, Wilts, may be seen at the present time a turnip of the "green round" kind, the circumference of which is 42 inches, and which weighed, with the top, 36 lbs.; the trimmed bulb now weighing 27 lbs. This immense root was grown by Mr. Richard Drew, of Durnford, near Salisbury. The ground on which it grew was manured with superphosphate of lime and bone dust.

Smithfield Cattle Show.—This great event came off as usual in London, in the month of December last. The show, though not so large as is generally the case, was considered quite a fair one. The first prize was taken by a Hereford ox, fattened, and shown by Prince Albert. To give our readers an idea of the importance of this annual show of fat animals, we have only to add, that the value of the cattle, sheep, and pigs, in the market, was estimated at £200,000 sterling, about one million dollars of our money!

Milk as an Article of Diet.—It is common to regard milk as little else than mere drink. But this is an error. Milk is really an article of solid food, being coagulated soon after reaching the stomach. New milk contains 13 per cent. of digestible solids, and skimmed milk 10 per cent.; that is, the former fully one half, and the latter above a third, of the nutriment contained in the lean part of beef and mutton.

Curious Mode of Grafting the Grape Vine.—A gentleman in the neighborhood of Oporto, split a vine shoot (white grapes), very carefully down the middle, cutting the bud in half, and then split a corresponding shoot on a black vine, and united them as in common grafting, and, after many experiments, succeeded in making the graft grow, and the produce of the vine was white and black fruit on the same bunch, and on others variegated fruit.

Clipping Horses.—Clipping, undoubtedly, enables a horse to perform his work with greater ease, in the same way that a man can work easier in his shirt sleeves than in a great coat; besides this, he can be dressed quicker and more readily. Extra clothing is required, and the horse should not stand about in cold weather. Where, however, he is obliged to do so, singeing is better than clipping, as it does not remove so much of the coat, but can be repeated during the winter.—*Agricultural Gazette.*

Buried Alive Two Thousand Years.—Lord Lindsay, in his Travels, writes, that while wandering amid the pyramids of Egypt, he stumbled on a mummy, proved by its hieroglyphics to be at least 2,000 years of age. In examining the mummy after it was unwrapped, he found in one of its closed hands a tuberous or bulbous root. He was interested in the question how long vegetable life could last, and therefore took that tuberous root from the mummy's hand, planted it in a sunny soil, allowed the rains and dews of heaven to descend upon it, and in the course of a

few weeks, to his astonishment and joy, the root burst forth, and bloomed in a beautiful dahlia. Thus is it written into a London newspaper! We do not dispute the fact—very likely the root produced a dahlia; but as the dahlia comes from Mexico, and as Mexico has not been known to Europeans quite 2,000 years, we would humbly suggest that there may be some small doubt whether the dahlia was put into the mummy's hand when it was embalmed, or when it was unpacked.—*Ibid.*

Weeds in Gravel Walks.—For more than 10 years past, I have used salt (but not in solution), for destroying and keeping down weeds in my gravel walks, with perfect success, and without perceiving that the application acted as a stimulant to reproduction. The contrary is the case. I sow the salt by hand in dry weather, and sweep it about thin, and as regularly as possible. I have seldom occasion to do this more than once in 12 months.—*Ibid.*

The Night-blowing Cereus.—By a series of experiments, I have discovered a method of preserving this interesting flower of a night, for days and nights together. I cut the flowers close off, place them in a large dish of fine charcoal, covered with a hand glass, and keep them in a dark cave or vault. In this way, I have frequently preserved them perfect in shape and color for a week, bringing them out freely in the light of day, to gratify the many, and to satisfy the incredulous. This is the more remarkable, as this fine flower is known to exist but a night on the plant. It opens when the sun sets, and by the time he rises, on the following morning, it droops its head, closes, and dies.—*Ibid.*

A Washing Plant.—In California there grows a plant (*Agave saponaria*?), which is said to be used for washing every description of clothing in cold running water. In using it as soap, the women cut the roots from the bulbs, and rub them on the clothes, when a strong lather is formed. To propagate the plant, the bulbs are set in a rich moist soil, and grow most luxuriantly in the soft bottoms of valleys, or on the borders of running streams.—*Ibid.*

Pruning.—When small branches die, or begin to die, it is better to remove them with the knife, so as to have a clean wound rather than a ragged one. We see no use in shortening larch branches, unless it is done very moderately, in order to keep them within compass; then, and if done skilfully, it enables the trees to make timber quicker than they would if the branches were removed. It is true that roots must, to some extent, be injured in transplanting, unless they have been confined in a pot; and it is also true that where they are extensively injured the head of a tree must be also reduced; but it requires experience to know when this becomes necessary. When trees are young it never need be done, if they are carefully taken out of the ground.

Small Holdings in France.—France contains 92,000,000 cultivable acres, of which 6 millions are under forests, leaving 86 millions divided thus:—

3,000,000 families cultivating their estates	
of a little more than 6 acres, possessing altogether	20,000,000
800,000 do. cultivating little more than 26 acres each, say	20,000,000
1,000,000 do. cultivating their land, through tenants, on the conditions following:—	
By métayers, at half produce, about	30,000,000
By general leases to middlemen, with privilege of sub-letting	6,000,000
By special do. to tenants, without privilege of do.	10,000,000
	<hr/> 86,000,000

Editor's Table.

TO ADVERTISERS AND CORRESPONDENTS.—As the matter of each number of the *Agriculturist* must necessarily be arranged by the 10th of the month preceding its publication, all those who wish to advertise in season, should avail themselves of the opportunity. Correspondents should forward their communications for publication by the 1st of the month.

NEW WORK ON AGRICULTURE.—We give in this number an extract from the *American Farm Book* of R. L. Allen, revised and enlarged, from the former editions of "The Compend of American Agriculture." This work is now in press, and will embody a large amount of practical information, condensed into the smallest compass. It is plainly written, and adapted to the humblest capacities, yet embodying the latest and best information on all the leading subjects of American husbandry. It is well illustrated with engravings, and contains from 300 to 400 duodecimo pages, handsomely got up, and will be for sale by C. M. Saxton, publisher, 121 Fulton street. N. Y. Price \$1.

MR. BEMENT'S SALE OF AYRSHIRE STOCK.—We would call attention to this important sale, which is to come off on the 14th of March. See advertisement.

DISCONTINUANCE OF THE AMERICAN JOURNAL OF AGRICULTURE AND SCIENCE.—We regret to learn that this favorite work, after completing its seventh volume, has been discontinued, as its familiar and instructive pages will be sadly missed by its friends and supporters. Mr. C. N. Bement, its late conductor and proprietor, has recently disposed of his celebrated farm, near Albany, and is about, as we are informed, to retire. We shall wish him all sorts of prosperity in his new home.

THE CULTIVATOR, a monthly paper, devoted to agriculture and rural affairs, published by Luther Tucker, No. 10 Green street, Albany, N. Y., price \$1 a year. The enterprising publisher of this excellent periodical was so unfortunate as to be burned out in the month of November last, and met, consequently, with a heavy loss. The January number of the *Cultivator*, however, is placed before us with its usual promptness, appearing like a new phoenix just fledged from its ashes. It abounds with handsome illustrations, and useful matter, and ought to be taken in every farm house in the United States. We trust that an increased subscription, from year to year, will amply compensate its enterprising proprietor for all his losses.

THE NEW-ENGLAND FARMER, a semi-monthly journal of 16 octavo pages, devoted to agriculture and all its kindred arts and sciences, edited by S. W. Coles, Esq., and published by J. Nourse, of Quincy Hall, Boston, at \$1 per annum, has lately been revived, and from the well-known reputation of the editor, and the enterprise of the publisher, as one of the extensive firm of Messrs. Ruggles, Nourse & Mason, of Boston and Worcester, we trust it will find a liberal support. It is got up in handsome style, and is filled with varied and useful matter for the farmer and general reader.

ROOT PROPAGATION OF FRUIT TREES.—The Haverhill (Mass.) Whig, says:—Two or three of the best farmers, within our knowledge, secure their fruit trees thus: They dig at some distance from a favorite tree, until they find a root which they cut off. The part disjointed from the tree is turned up, so as to appear above the ground. This sends forth shoots the first year, and bears, in a few years, fruit precisely like the parent tree.

BANANAS.—The cultivation of this fruit has been attended with complete success on several plantations on Galveston Bay.

MODEL SHEEP.—We have received from J. A. Taintor, Esq., of Hartford, several statues of his late imported Merino sheep, beautifully modelled in plaster. The merits of these specimens consist in the perfect accuracy of form, character, and appearance. They are the work of an accomplished Italian sculptor, who made a few models by way of parenthesis, in his more important avocations.

We think these efforts invaluable to breeders, as perpetuating the genuine appearance, embodying whatever excellencies or defects distinguish particular breeds or individuals, and placing them within the reach of all. Those alluded to above are in our office, where we shall be happy to show them to those who take an interest in such matters. They are really the most exact and life-like things of the kind we have ever seen, and show Mr. Taintor's noble sheep with great accuracy. He certainly deserves great credit for spending a little money in the way of modelling animals. We look upon a statue as far superior to a painting, for the purpose of giving an accurate idea of an animal.

OFFICERS OF THE CORTLAND COUNTY AGRICULTURAL SOCIETY FOR 1849:—

President—Peter Walrod.

Vice Presidents—Charles Taylor, Alfred Chamberlain, Moses Kenney (of Truxton), Chauncey Morgan.

Treasurer—Ira Bowen.

Corresponding Secretary—Amos Hobart.

Secretary—Geo. J. J. Barber.

Executive Committee—Amos Graves, Harry Woolston, Morris Miller, Hiram Hopkins, Francis Hibbard, Richard Cornell, Thomas Harrop, Amos Rice, Henry Sessions, Selden Munger.

Marshals—Noah Hitchcock, Jr., Israel Boies, Paris Barber.

DISINFECTING PROPERTY OF COFFEE.—Coffee is one of the most powerful means not only of rendering animal and vegetable effluvia innocuous, but of actually destroying them. A room in which meat in an advanced degree of decomposition has been kept for some time, may be instantly deprived of all smell on an open coffee roaster being carried through it, containing a pound of coffee newly roasted.

SARATOGA MINERAL WATERS.—We are glad to perceive that some enterprising capitalists are moving in the matter, of supplying the city of New York with water, self delivered from the mineral springs of Saratoga. We think this one of the best enterprises of the day, and hope it may be speedily carried out. It will place those healthful streams, that are now permitted to run to waste, within the reach of hundreds of thousands, who cannot, for the want of leisure or money, procure them. Every town or village along the route can use them, as well as immense numbers who live near the city, and are constantly visiting it. Here is a convenient and economical point, also, for shipping it to any part of the Union, and the world. We have no doubt, besides this being an enterprise fraught with the blessings of health, it is also certain to pay the proprietors, if rightly managed, a large per centage on the capital necessary to accomplish the object.

This will be rather better than resorting to the Aix-La-Chapelle waters of Jacob street, in this city, which used to be kept at their requisite potency, by the drainage from all the tanneries and sewers of the Swamp.

NAMES AND VALUE OF SMALL SPANISH COINS IN SEVERAL STATES OF THE UNION.—The Spanish real, valued, at 12½ cents, in Massachusetts is called *nine pence*, in New York a *shilling*, in Maryland a *levy*, in South Carolina *seven-pence*, and Louisiana a *bit*. The half real, valued at 6¼ cents, in Massachusetts is called *four-pence-half-penny*, in New York *six-pence* in Maryland a *tip*, and in Louisiana a *picayune*.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, JANUARY 15, 1849.

ASHES, Pots,	per 100 lbs.	\$6 25	to	\$6 31
Pearls,	do.	6 50	"	6 56
BALE ROPE,	lb.	6	"	8
BARK, Quercitron,	ton,	26 00	"	28 00
BEANS, White,	bush.	75	"	1 25
BEESWAX, Am. Yellow,	lb.	19	"	22
BOLT ROPE,	do.	11	"	12 1/2
BONES, ground,	bush.	45	"	55
BRISTLES, American,	lb.	25	"	65
BUTTER, Table,	do.	15	"	25
Shipping,	do.	9	"	15
CANDLES, Mould, Tallow,	do.	11	"	13
Sperm,	do.	25	"	38
Stearic,	do.	20	"	25
CHEESE,	do.	5	"	10
COAL, Anthracite,	2,000 lbs.	4 50	"	5 50
CORDAGE, American,	lb.	10	"	12
COTTON,	do.	6	"	9
COTTON BAGGING, Amer. hemp,	yard,	15	"	16
FEATHERS,	lb.	30	"	40
FLAX, American,	do.	8	"	9
FLOUR, Northern, Southern and West'n bbl.	5 62	"	6 06	
Fancy,	do.	6 25	"	6 50
Richmond City Mills,	do.	7 00	"	7 25
Buckwheat,	do.	3 12	"	3 25
Rye,	do.	1 10	"	1 31
GRAIN—Wheat, Western,	bush.	1 10	"	1 31
Red and Mixed,	do.	95	"	1 10
Rye,	do.	62	"	63
Corn, Northern,	do.	65	"	71
Southern,	do.	60	"	70
Barley,	do.	64	"	66
Oats,	do.	35	"	45
GUANO, Peruvian,	2,000 lbs.	50 00	"	50 00
" Patagonian,	do.	35 00	"	40 00
HAY, in bales,	do.	50	"	56
HEMP, Russia, clean,	ton,	195 00	"	200 00
American, water-rotted,	do.	160 00	"	220 00
American, dew-rotted,	do.	140 00	"	200 00
HIDES, Dry Southern,	do.	6	"	7
HOPS,	lb.	4	"	12
HORNS,	100.	2 00	"	10 00
LEAD, pig,	do.	4 25	"	4 31
Pipes for Pumps, &c.	lb.	5	"	7
MEAL, Corn,	bbl.	2 75	"	3 00
Corn,	hhd.	14 00	"	14 50
MOLASSES, New Orleans,	gal.	25	"	30
MUSTARD, American,	lb.	16	"	31
NAVAL STORES—Tar,	bbl.	1 75	"	2 00
Pitch,	do.	1 25	"	1 75
Rosin,	do.	90	"	1 25
Turpentine,	do.	2 50	"	3 00
Spirits Turpentine, Southern,	gal.	35	"	36
OIL, Linseed, American,	do.	51	"	53
Castor,	do.	1 25	"	1 50
Lard,	do.	65	"	70
OIL CAKE,	100 lbs.	1 00	"	1 15
PEAS, Field,	bush.	75	"	1 25
Black eyed,	do.	1 25	"	1 50
PLASTER OF PARIS,	ton,	2 25	"	3 00
Ground, in bbls.	of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,	bbl.	9 00	"	13 50
Prime,	do.	5 00	"	7 50
Smoked,	lb.	6	"	12
Rounds, in pickle,	do.	4	"	6
Pork, Mess,	bbl.	11 00	"	16 00
Prime,	do.	7 00	"	10 00
Lard,	lb.	7	"	8
Bacon sides, Smoked,	do.	3	"	4 1/2
In pickle,	do.	3	"	4
Hams, Smoked,	do.	5	"	9
Pickled,	do.	4	"	7
Shoulders, Smoked,	do.	4	"	5
Pickled,	do.	3	"	4
RICE,	100 lbs.	2 88	"	3 38
SALT,	sack,	1 25	"	1 45
Common,	bush.	20	"	35
SEEDS—Clover,	lb.	5	"	7
Timothy,	bush.	2 00	"	3 50
Flax, clean,	do.	1 30	"	1 40
rough,	do.	1 20	"	1 22
SODA, Ash, cont'd 80 per cent. soda, ...	lb.	3	"	—
Sulphate Soda, ground,	do.	1	"	—
SUGAR, New Orleans,	do.	4	"	6
SUMAC, American,	ton,	35 00	"	37 00
TALLOW,	lb.	8	"	9
TOBACCO,	do.	24	"	7
WHISKEY, American,	gal.	23	"	25
WOOLS, Saxony,	lb.	35	"	60
Merino,	do.	25	"	35
Half blood,	do.	20	"	25
Common do.	do.	18	"	20

NEW-YORK CATTLE MARKET.

At Market.—1,400 Beef Cattle (600 southern, remainder this state), 50 Cows and Calves, and 3,000 Sheep and Lambs.

Beef Cattle.—The extremely unfavorable state of the weather retards operations in the yard, to-day, and the market upon the whole, may be reported very dull. Prices, from \$6 to \$8.50 as in quality. It is probable there was about 500 head left over.

Cows and Calves.—All taken at from \$22.50 to \$45.

Sheep and Lambs.—Sheep at from \$1.50 to \$6.50. Lambs \$1.50 to \$3. Unsold, 550.

REMARKS.—Flour, wheat, and oats have advanced slightly since our last, while corn has receded somewhat. Beef and pork continue high, at an advance, but prices will give way as soon as we are in receipts from the west, via New Orleans. These are daily expected. Cotton, a steady and quite satisfactory advance. The *gold fever* is all the rage just now in this city, but we hope it will not spread among the farmers. Beware of that and the cholera, and take needful precautions against both.

Money continues reasonably abundant, and business very active for the season.

The Weather has been unprecedentedly cold here the past week. The thermometer sank to within three degrees of zero in the city, and one or two below in its immediate neighborhood; colder than we have before experienced for thirteen years. The weather is now quite mild, with a rain and thaw.

TO CORRESPONDENTS.—Communications have been received from E. J. Capell, Old Lady, Samuel Allen, A Friend to Agriculture, Wm. H. Gardiner, N. Longworth, Solon Robinson, M. W. Phillips, Sergeant Teltrue, Enoch Reed, D. A. Morrison, Wm. Day, Peter Gimlet, N. S. Smith, J. C. Spencer, and Reviewer.

Putting up Butter in Ice for N. Y. Market.—W. S., of Dover, N. Y.—Turn to p. 314, vol. vii. of the Agriculturist, and you will find the information you ask.

Estimating the Quantity of Hay in the Mow.—A. W. C., of West Farms.—We do not know of any rule for computing the exact quantity of hay in a mow of given dimensions. Its weight would depend upon the kind of hay, its degree of moisture, dryness, compactness, &c.

Copying Articles from the Agriculturist without giving Credit.—Lancaster County Farmer.—Why not give the papers from which you copied these articles, credit then? If you did not know that they belonged to the Agriculturist, you might suppose they belonged to the papers from which you copied, and this would have given us a clue to those papers which first proved culpable.

ACKNOWLEDGEMENTS.—From John Lewis, of Liangollen, Ky., a pamphlet on his Patent Safety Mask, or Prophylactic Protector from Diseases produced by Contagion, Infection, and Malaria; Constitution and Bye-Laws of the St. Louis Horticultural Society; and the Address delivered at the Annual Show of the N. Y. State Agricultural Society, at Buffalo, in September last, by Professor J. P. Norton; also, a beautiful sample of long wool, from J. C. Spencer, of Erie, Pa., which will be more particularly noticed in our next.

FOREIGN PERIODICAL LITERATURE.

THE subscribers reprint and publish the following Periodicals:—

The London Quarterly Review, }
The Edinburgh Review, } Quarterly
The Westminster Review, }
The North British Review, }
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PERUVIAN GUANO

FOR Sale, at Bating Hollow, Long Island, by
Jy3t AZEL DOWNS.

MINER'S EQUILATERAL BEE HIVE.

THE subscriber has constructed a Bee-Hive, denominated as above, of peculiar merit. A partial idea of its beauty of appearance may be had, from the hives shown in the engraving at page 56. The design is entirely original, and the whole is based on the true principles of the natural economy of the honey bee; its leading feature of utility is, however, *the great facility of managing the supers in the chamber.* No hive can possibly excel it on this point; nor in any other, as the subscriber fully believes. This hive is the most beautiful in its tout ensemble, of any that has ever yet appeared.

The price, by the single hive, is \$8; and sent to any part of the United States, giving the purchaser the right to make any number of hives, that he may desire, for his own personal use; and by the dozen, to sell again, or otherwise a very large discount will be made, according to the number wanted. For the benefit of gentlemen residing at a distance, where hives cannot be conveniently sent, *full and ample* drawings have been made, and engraved, showing every part of the hive, as well as its whole complete appearance, so that any joiner can construct it, just as well as if a real hive were before him. Besides this, a pamphlet of twelve pages, giving the rules of management complete for this hive, will be sent to any address on the receipt of ONE DOLLAR, and the right to make as above guaranteed. The particulars of the above valuable hive will not appear in the subscriber's new work on bees, now in press. Address,

T. B. MINER,
No. 40 Peck Slip, N. Y.

A GOOD BOOK COMING!**COLE'S AMERICAN FRUIT BOOK.**

S. W. COLE, Esq., author of the popular work entitled *The American Veterinarian*, of which 22,000 copies have already been published, has, after years of patient labor and close investigation, completed his great work, entitled *Cole's American Fruit Book*, a work which we believe is destined to have a more widely-extended circulation than any similar work, ever before offered to the American public. We believe so for the following reasons:—

First—It is a mature work and a practical one, one on which Mr. Cole has spent many years of study and close examination, and knowing the wants of the community has met those wants, in a plain, concise, and familiar manner, avoiding technicalities, and ultra scientific specifications and definitions, useful only to the few—made a work intelligible to all. It will be emphatically a book for the people.

Secondly—It will have an unprecedented sale on account of its cheapness. It will make a volume of 288 closely-printed pages. Illustrated with over one hundred beautifully-executed engravings, by Brown, and will be sold for 50 cents, firmly bound in leather, and 62½ cents in fancy cloth, with gilt backs. It will contain full directions for raising, propagating, and managing fruit trees, shrubs and plants, with a description of the best varieties of fruit, embracing several new and valuable kinds; embellished with engravings, and outlines of fruit trees, and various other designs, emphatically a book for everybody. As well for the man who eats fruit as for him who raises it. This valuable work will be published early in February.

100 agents, active, intelligent, and honest, are wanted to sell this book, in every state in the Union. A cash capital of from \$25 to \$50 will be necessary. Address (post paid), the publishers, John P. Jewett & Co., 23 Cornhill, Boston.

It is a rare chance for agents to make money.

C. M. Saxton, No. 121 Fulton Street, New York, general agent for the publishers. f3t.

POUDRETTE.

THE LODI MANUFACTURING CO. offer their new and improved Poudrette, for sale at their usual rates—1 bbl. \$2; 3 bbls. \$5, and \$1.50 per barrel for any quantity over 7 barrels, delivered free of expense, on board of vessels in New York. At the factory, where vessels, drawing eight feet of water can come, it will be sold at 25 cents per bushel.

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f. It *

S. D. INGHAM.

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A. G. BAGLEY & CO. would very respectfully call the attention of dealers in their wares, that they have on hand a superior article of "Bagley's Improved Gold Pens," with their new style of patent holders, together with all styles of Gold and Silver Pen and Pencil Cases of beautiful patterns, suitable for the holidays, at their warehouse (old stand), 189 Broadway, New York. j3t

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These farms would sell in the north, for from \$50 to \$100 per acre, and can be bought here in a more pleasant and healthy climate, one for eight, the other ten dollars per acre, on easy terms, and a good title given.

Further information given, if requested, by T. R. Love, trustee, either personally, or by letter (postage paid), directed to Fairfax Court House, Va

f. ff.

H. FULLER.

Recently published, by Harper & Brothers, New York, MACAULAY'S HISTORY OF ENGLAND FROM THE ACCESSION OF JAMES II.

Vols. I. & II. 8vo, Muslin, gilt, \$2 each.

ESTIMATED even by the ordinary means of judgment, Mr Macaulay's qualifications and opportunities are such as to warrant no ordinary anticipations. By the side of signal political facilities, the minor advantages of rich materials and an almost untrodden field become nearly imperceptible. The domestic and the external life of the British nation are to be distinctly portrayed. A perfect history can never be written; but the approximation has been made by Mr. Macaulay to this consummate ideal. He has, as we before observed, had the double advantage of unusually good guidance and an almost untrodden field.—*London Times*.

A book which will be highly popular as long as the English language lasts. His style is terse and brilliant, and his general views of a far-seeing and impartial character. It is, indeed, delightful reading, but it stands in no need of the praise—the great praise—we are bound to bestow upon it.—*London Literary Gazette*.

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For further particulars, as to situation, improvements, advantages, &c., with price and terms of payment, application can be made personally, on the premises, or by letter (post paid), addressed to the subscriber, Oakwood Farm, near Cayuga Bridge, or to A. H. Wallis, 52 John street, New York

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THE Implements kept, embrace upwards of FIFTY different kinds of Plows, a great variety of Harrows, Cultivators, Rollers, Seed Sowers, Horse Powers, Grain Cradles, Threshing and Fanning Machines, Mills, Hay Cutters, Corn Shellers, Shovels, Spades, Hoes, Scythes, Rakes, Wagons, Wheels, Carts, Wheelbarrows, Pumps, Rice Threshers and Hullers, Road Scrapers, Axes, Chains, &c., &c. These implements are mostly made up from new and highly-improved patterns, and are warranted to be of the best materials, and put together in the strongest manner, and of a superior finish.

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GOLD WASHING MACHINES—LEAVENWORTH'S PATENT.

THE superiority of these machines over all others is, that the gold, platina, cinnabar (ore of quicksilver), and black sand (containing a large percentage of gold), cannot escape; and that the gravel and dirt pass off without detention. These machines will perform more and better work than any other ever constructed. They may be operated by hand, horse, water, or steam power. Price of hand machines \$25 to \$35 each; horse power, ditto, \$50 each. Additional castings, sieves, irons, and boxing, extra.

In addition to the above, emigrants to California will find at our warehouse, a large and complete assortment of the best and most recently constructed mining tools of all kinds, smelting and assaying apparatus, crucibles and retorts, with printed directions for using the same; pumps and hose; Whitney's celebrated rifles; wagons, carts, and wheelbarrows; agricultural implements, field and garden seeds, &c., &c., at the lowest prices.

The public are cautioned against purchasing gold machines, imitations of Mr. Leavenworth's patent, as he has directed his agent at San Francisco, E. Crosby, Esq., to enjoin all persons from using such, on their arrival in California.

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AYRSHIRE CATTLE FOR SALE.

THE subscriber having disposed of his farm, will sell at public auction, at Three-Hills Farm, on the Cherry-Valley turnpike road, three and a half miles west of Albany, on the 14th of March next, his choice herd of Ayrshire cattle, consisting of the imported cow "Alice," her daughter "Fairy," for which the first premium was awarded at the fair of the New York State Agricultural Society, held at Saratoga Springs, in 1847; "Lassie," three years; "Moggy," two years; "Norna," one year, and "Jenny Deans," nine months old. Two-year old bull and bull calf. Also several head of cows and heifers, a cross of Ayrshire and Durham. These cattle, except Alice and Fairy, were bred by the subscriber, and are principally young and rich milkers. Also, two young boars and several breeding sows of the Medley breed.

Catalogues, with pedigrees, will be furnished on the day of sale.
C. N. BEMENT.

Albany, Jan. 1st, 1849.

ROCK SALT.

THIS Salt is as hard as alum, and is the best kind. It comes in large lumps, and is the most suitable and economical kind for stock. It may be placed on the ground in the open field where it will be exposed for years to the weather with but little waste. It is the best kind to put in a rack, manger or trough, to be licked by horses, cattle, and sheep, as they may desire. By this means stock never get an excess, or suffer injury from its use. Price \$1 per hundred pounds, for a single barrel, or 75 cents per hundred pounds for larger quantities.

A. B. ALLEN & CO., 189 and 191 Water street, N. Y.

THE INDEPENDENT,

A NEW RELIGIOUS NEWSPAPER, published weekly, by S. W. BENEDICT. Office 201 William street, N. Y.

This paper is under the united editorial control of Leonard Bacon, D.D., of New Haven, Rev. Joseph P. Thompson, of New York, Pastor of the Broadway Tabernacle Church, and Rev. Richard S. Storrs, jr., of Brooklyn, Pastor of the Church of the Pilgrims. The most efficient assistance has also been secured in all the departments of the paper, both foreign and domestic, and everything that transpires in any part of the world, affecting the condition of man, will find the earliest record in its columns.

The paper is not the organ of any Christian sect or denomination; but as its editors and proprietors are all of them connected with the Congregational Churches of this city and Brooklyn, they will naturally look to their brethren connected with such churches, both at the east and the west, for sympathy and support. In return, they will endeavor to give them such information, advice or instruction, as may be most suited to their condition and wants as members of the great family of Christ.

The size of the paper is the same as of the largest of the other religious papers in this city.

Terms.—The price will be \$2.50 cents per annum for single subscribers, payable in advance.

Clergymen sending us four subscribers with \$10, will be allowed a fifth copy gratis for one year.

Advertisements of books, periodicals, schools, and of such matter as may be particularly important to churches, or religious families, will be admitted at the rate of 75 cents for 10 lines for the first insertion, and 50 cts. each subsequent insertion.

PERUVIAN GUANO.

ONE THOUSAND TONS of Peruvian Guano just received from the Chinche islands for sale, in lots to suit purchasers.

Also, THREE HUNDRED TONS Patagonian Guano.

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FIVE THOUSAND PLOWS for sale at all prices, from \$1.50 up; well made, of the most durable materials, on the latest improved principles, and adapted to every soil, crop, and manner of cultivation.

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GIN-GEAR SEGMENTS, of all sizes, furnished at short notice, at low prices.

BURR MILLSTONES of any size; PATENT BURR MILLS, from 12 to 30 inches in diameter; also, Nicholls' and Marsh's Burr Mills, 12 to 30 inches in diameter.

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A detailed black and white engraving of a rural farm scene. In the center, a two-story farmhouse with a gabled roof and a chimney stands next to a smaller outbuilding. To the right, a large barn with a cross on its roof is visible. The foreground features a horse, a cow, and a person near a small stream or pond. The background shows rolling hills and a windmill.

Meadows and Old Fields.—If you have any meadows or old fields that are sward-bound, or which bore but indifferent crops of hay last season, give them a thorough harrowing as soon as the frost is out of the surface, while the ground is soft; then sow to each acre 4 quarts of Timothy seed, 10 lbs. of clover seed, 1 bushel of plaster of Paris, 5 bushels of wood ashes, and 5 bushels of newly-slacked lime, all well mixed, and finish off by rolling.

Winter Wheat and Rye.—If your fields of winter wheat or rye are much killed by frost, let each acre be sown with 15 lbs. of clover seed, 1 bushel of plaster, and 10 bushels of newly-slacked lime, well incorporated together; then pass over the field a light harrow, and lastly the roller. Most of the grain roots that will be torn up by the harrow the roller will restore to the earth, where they will not only grow again, but each joint, which may thus be pressed into the soil, will form new roots, send forth additional stalks, and contribute to an increased yield.

Allotment, or Classification of Spring Crops.—This is the season when all plans should be matured, and all arrangements completed for putting in spring crops. In the first place, do not attempt to cultivate more land than you can properly attend to, let it be ever so rich, nor to sow, or plant, more than you can well manure; for, a few acres, judiciously tilled, will yield a more profitable return, and at the end of the season will be in a better condition for the succeeding crop. Particular regard, also, should be paid to *rotation*; for, as a general rule, seeding the same ground for the same kind of crop, two years in succession, tends to the impoverishment of the soil. For reliable directions on this subject, see p. 76, of the present number.

Spring Grain, &c.—As soon as the frost is out of the ground and the soil is sufficiently dry, the lands intended for oats, barley, spring wheat, and rye should be well and deeply plowed, manured, thoroughly pulverized by the harrow and roller, and then sown. Any kind of grass seed, adapted to spring culture, may be sown with barley or wheat, but not with oats nor rye.

Manures.—Lose no opportunity in hauling out manure, in order that there may be no hindrances in spreading and plowing it in, previous to planting, or sowing your seeds. Should it be necessary for it to lie in heaps in the field, or to be spread on the surface long before it is plowed in, it would be preferable if a little plaster were scattered over it, in order to fix the ammonia and prevent its escape. Neither lime nor wood ashes should be applied with guano nor with any other animal manures, as they both will liberate the ammonia contained in them, and cause it to be lost; but the lime and ashes should always be mixed together, as the former will disengage the potash from the latter, which will then be more prompt and energetic in its effects. Quick lime, caustic lime, or *hot lime*, as it is sometimes called, should never be applied directly to composts, manures, nor to the soil, except in cases where organic acids and much crude vegetable matter abound. Lime is best applied in composts having for their basis a large proportion of vegetable matter, as peat, or swamp muck, turf, rotten wood, decayed leaves, straw, &c. It should first be thoroughly slacked, and directly after incorporated in the compost.

Guano should not be applied at this season, except as a steep for promoting the vegetation of seeds.

Care and Management of Stock.—All working, breeding, and store animals should still be carefully attended to, sheltered regularly, fed, salted, watered, &c., whenever required. Particular attention should be paid to milch cows, as well as those with young.

See that they have, daily, a proper allowance of hay, and some kind of succulent food, such as beets, carrots, parsnips, cabbages, mashies of bran or Indian meal, or browse from the woods when it can be safely and conveniently obtained. Should you have any cow you wish to bring into milk in December next, it will be necessary now to induce her to take the bull; and, for this purpose, medicines of a stimulant nature may sometimes be advantageously used. These will seldom be necessary, however, if the animal is well fed, though there are some constitutions so sluggish and torpid as to require artificial aid. Among the provocative medicines employed for this purpose, the following has been adopted with success;—

Grains of Paradise, (cardamoms,) $\frac{1}{2}$ oz.; cantharides, (Spanish flies,) from $\frac{1}{4}$ to $\frac{1}{2}$ oz.

To be boiled in two or three pints of strong beer or ale, and given, milk warm, to the animal, while fasting, not allowing her anything to eat nor drink for four hours after taking it, in order that it may have the more influence. If she takes the bull within the period of four or five days after, it will be unnecessary to repeat the dose.

To those who have but a small number of cows, where a bull is not always kept with them it will be useful to know when they are inclined for coition. This may be known by a general restlessness; a shifting about from place to place; the tail in constant motion; a frequent dunging, staling, and bellowing; a loss of appetite; suddenly abating her milk; and when in the yard or field, frequently riding oxen or other cows, or allowing them to ride her. In old cows, symptoms are known to continue four or five days; but, in general, not more than twenty-four hours,—sometimes, not more than five or six hours. Therefore, if a cow is intended for procreation, the earliest opportunity should be taken to let her have the bull; for, if then neglected, it will often be two or three weeks before the venereal appetite returns. If, after calving, a cow shows symptoms of coition sooner than four or five weeks, which is sometimes the case, she should not be permitted to have the bull sooner than a month from that period; for, before that time, the womb is generally in so relaxed a state, as to be incapable of conception.

A heifer should never have access to a bull before she is at least two years old, at which period nature is ripe for propagation; and when the time arrives for her calving, her parts will be strong and open, so as to enable her to give birth to her young with vigor and strength.

Have coops in readiness for young chickens—early ones are best.

Tobacco Beds.—These should be prepared and sown agreeably to the directions given last month, if not done before.

Kitchen Garden.—Continue the directions given in January and February, according to the climate and latitude of your place. Transplant in new hot-beds the cucumbers, cabbages, lettuces, cauliflowers, &c., sown last month. Seeds of cabbage, cauliflower, radishes, &c., may be sown in a warm border, on the south side of a wall or close fence, as soon as the frost is entirely out of the ground. At the same time sow a full crop of peas, kidney

beans, spinach, parsnips, carrots, beets, onions, turnips, parsley, &c.

Early Potatoes should be planted as soon as the ground can be properly pulverized or plowed. Before planting, the tubers should be cut into sets, rolled in dry ashes, plaster, or lime, and kept in a moderately warm, light place a few weeks. The ground in which they are to be planted should be liberally supplied with fine stable or horse manure, and thrown into beds or drills exposed to the morning and mid-day sun.

Sweet Potatoes may be planted this month in a hot bed, or some other warm place, where, in two or three weeks, they will throw out a number of runners, or sprouts, which, as soon as they reach a height of three or four inches above the surface, should be taken off, transplanted into hills four or five feet apart, in open ground, where the soil is light, rich, and finely prepared. In the course of the season, they may be hoed, earthed up, or treated in other respects like the common potato.

Fruit Garden and Orchard.—As soon as the ground is open and sufficiently dried, all kinds of fruit trees may be planted; also cuttings of grapevines, gooseberries, currants, raspberries, &c. If not done before, strawberry beds should now be uncovered, hoed, and cleaned. Fork up the earth around grape vines and fruit trees, and apply lime, leaf mold, ashes, manure, &c. In selecting all kinds of trees, whether for the purposes of ornament or fruit, be careful that you obtain none but the best, and see that they are properly planted, or set out. The holes should be dug of sufficient width to admit the roots without being doubled, or bent; and the ground should be trenched two spades deep, the lowermost of which should be cast away, and its space supplied with turf, leaf-mold, or peat, newly-slacked lime, wood ashes, or well-decomposed stable manure. Each tree should be planted at about the same depth as it originally grew in the nursery. Care should also be observed to surround the roots with the finest part of the mold that is taken from the pit. Water should likewise be liberally supplied as the earth is filled in, which should be firmly trodden down about the roots. If the planting be followed by dry weather, the trees must continue to be watered till their roots have taken effect.

Flower Garden and Pleasure Grounds.—As soon as the bulbs of plants begin to break ground, take off the litter; also uncover tender shrubs and flower borders.

WORK FOR MARCH, SOUTH.

Tobacco.—In the early part of this month, if the season has not required it before, select the ground for your tobacco crop. It should be a rich, sandy loam, capable of retaining moisture, and the more level the better. Plow or dig up the surface at least twice before planting, and level well each time. As soon as the young plants acquire a leaf the size of a dollar, take advantage of the first wet or cloudy day and commence setting them out in rows about three feet apart from north to south, and two and a half feet apart from east to west. In taking the plants up from the seed bed, the ground should be first loosened with a flat piece of wood

or iron, (a caseknife will do,) about an inch broad; then carefully holding the leaves closed in the hand, draw them up, and place them in a basket to receive them for planting. The evening is the best time for setting out plants, but it can also be done in the morning. Those set out in the morning, unless it be cloudy or rainy, should be covered during the day with palmetto leaves or other substances. Water the plants morning and evening until they have taken root. Fill up all vacancies where the plants die, with new ones.

Cotton.—The first fine weather after the twentieth of this month, commence planting your cotton seed. Put in one half of your crop ten days before the remainder, in order that you will not be too much driven in your harvest. Moisten your seed, and roll it with ashes and earth, and it will vegetate earlier, and will require a less quantity per acre.

Lowland Rice.—After your ground is well plowed and prepared by dikes and ditches for inundation, sow your *lowland rice*, broadcast, at the rate of two bushels to two bushels and a half to an acre, and cover it with a light harrow having many teeth.

Indian Corn.—Plant Indian corn if it was not done last month. Harrow and weed it, as soon as it is large enough.

Millet.—Sow millet about the twentieth of this month; manure the ground well, and you will be repaid for the labor.

Sweet Potatoes.—Bed out sweet potatoes as early as the season will permit. Place them on the level of the ground, previously dug up and raked even, as near as you can without touching; then cover them three or four inches, out of a trench dug all around the bed. This trench will keep the superabundance of water drained off, and therefore, the bed warmer. A bed 40 feet long and five wide will plant 15 or 20 bushels of potatoes. When there is no danger of frost, scrape off part of the covering; and thus enable them to vegetate earlier. Give the ground a liberal coat of manure.

Management of Stock, &c.—The remarks on this head for the north and west will generally apply to the south.

Sugar Cane.—Attend to your sugar cane, hoe, and keep it clear of weeds.

Kitchen Garden.—Plant southern and northern turnips, garlic, eggplant, celery, parsley, spinach, cress, leeks, roquet, sorrel, radishes, (long and round,) okra, early and dwarf beans, tomatoes, carrots, beets, endive, cabbages, lettuce, muskmelons, watermelons, cucumbers, squashes, pumpkins, peas, mustard, and artichokes. Tomatoes, peppers, egg plants, &c., may be transplanted in open ground toward the end of the month. Hoe the cabbages and lettuces which were sown in January and February, every ten days.

Fruit Garden, Shrubby, &c.—Prune orange and lemon trees; also other delicate ornamental evergreen shrubs.

IMPORTANT FACT IN PLANTING ORCHARDS.—It is an indisputable fact, that an orchard planted in the quincunx form will contain one eighth more trees than one planted in the common way, the distance of the trees apart in both cases being the same. See p. 331, of our sixth volume

ROTATION OF CROPS.

THE experience of husbandmen, from the earliest times, has shown that the same kinds of plants,

with few exceptions, cannot be cultivated advantageously in continued succession on the same soil. The same or similar species have a tendency to

I.—TABLE OF ROTATIONS IN AN ORDINARY SANDY SOIL.

First Year.	Second.	Third.	Fourth.	Fifth.	Sixth.	Seventh.	Eighth.	Ninth.	Tenth.
			Buckwheat	Carrots	Potatoes	Barley and Turnips	Indian Corn or Carrots		
			Oats	Clover	Barley and Turnips	Potatoes	Rye and Turnips		
Indian Corn or Carrots	Rye and Turnips	Rye and Turnips	Potatoes, Peas, or Carrots	Oats or Rye	Clover	Rye, or Barley and Turnips	Oats or Potatoes	Indian Corn or Carrots	Rye and Turnips
			Peas and Turnips	Buckwheat	Potatoes	Oats	Indian Corn or Carrots		
Indian Corn	Rye	Clover	Rye and Turnips	Rye and Turnips	Oats or Buckwheat	Potatoes	Rye and Turnips	Indian Corn	Clover
						Carrots	Rye and Turnips		
Indian Corn or Clover	Clover	Oats or Peas	Rye and Turnips	Rye and Turnips	Buckwheat, Potatoes, or Carrots	Barley and Turnips	Oats	Rye and Turnips	Indian Corn
						Rye and Turnips	Rye and Turnips	Indian Corn	

II.—TABLE OF ROTATIONS FOR THE RICHEST KIND OF LIGHT SOIL.

First Year.	Second.	Third.	Fourth.	Fifth.	Sixth.	Seventh.	Eighth.	Ninth.	Tenth.
	Wheat or Indian Corn	Rye and Turnips	Rye, Barley and Turnips	Potatoes	Wheat or Indian Corn	Rye and Turnips	Flax	Clover	
		Rye, Carrots or Barley and Turnips	Potatoes	Wheat or Indian Corn	Rye, Barley and Turnips	Oats	Flax or Carrots	Rye	Clover
Flax, Clover, * or Carrots	Oats		Potatoes	Wheat or Indian Corn	Rye and Turnips	Barley and Turnips, or Oats	Flax	Clover	
	Barley and Turnips	Rye or Carrots	Potatoes	Wheat or Indian Corn	Rye and Turnips	Flax or Carrots	Oats	Clover	

*If Clover is sown with the flax, it is cut in the second year, and another year is added to the rotation; but in England, it is more usual to sow carrots with the flax, and sow oats or barley the second year.

III.—TABLE OF ROTATIONS FOR A GOOD CLAY OR STRONG LOAM.

First Year.	Second.	Third.	Fourth.	Fifth.	Sixth.	Seventh.	Eighth.	Ninth.	Tenth.
		Oats	Carrots or Barley and Turnips	Wheat or Indian Corn	Rye and Turnips	Potatoes	Wheat or Indian Corn	Rye and Turnips	Flax
				Beans	Wheat or Indian Corn	Rye and Turnips	Potatoes	Rape or Carrots	Flax
	Clover	Barley and Turnips	Rape, Carrots, or Beans	Wheat or Indian Corn	Rye and Turnips	Potatoes	Rye and Turnips, Wheat or Indian Corn	Oats or Flax. Rye or Barley and Turnips	Flax
	Wheat or Indian Corn	Barley	Beans	Wheat or Indian Corn	Rye and Turnips	Potatoes	Rape and Turnips	Oats or Flax	
Flax		Rye and Turnips	Oats, Clover, or Potatoes	Clover, Rape and Turnips	Wheat or Indian Corn	Rye and Turnips	Flax		
	Rape and Turnips*	Wheat or Indian Corn	Rye and Turnips	Oats	Clover	Wheat or Indian Corn	Rye, or Barley and Turnips	Oats or Flax	

*Is to be understood that wherever turnips are associated with any plant, they are to be sown in July, after harvesting the other crop.

grow feebly, degenerate, or become more subject to diseases, when cultivated consecutively upon the same ground; and hence the rule which forms the basis of a system of regular alternation of crops

is, that plants of the same or allied species are not to be grown in immediate succession, and furthermore, the same rule would imply that similar kinds of crops should recur at as distant intervals of the course as circumstances will allow.

As no particular systems of rotation have as yet been established in the United States, the foregoing are offered for the consideration of the cultivator, until better ones can be found. It is to be understood, however, that they are adapted only to strong new soils or to older ones brought into and maintained in good tilth by the aid of manures.

When tobacco, hemp, cotton, or sugar cane is to be cultivated, a place should be assigned for it, according as it is raised as a green crop, for its fibre, or for its seeds. Thus, in the preceding tables, cotton or hemp, cultivated for their seeds, may take the place of wheat or Indian corn; and tobacco may follow either of these by again restoring the soil with manure. *B.*

GRASSES, MEADOWS, AND PASTURES.—No. 2.

Flat-Stalked Meadow, or Blue Grass, (Poa compressa,) is an early dwarfish grass, which abounds in the middle and northern states. It is tenacious of its foothold wherever it intrudes. It possesses little merit as hay, but is valuable for pasture, affording as it does, a close covering to the ground, and yielding much in a small compass.



FIG. 14.



FIG. 15.

The Annual Meadow Grass, (P. annua,) Fig. 14.

—This grass flourishes in most soils, and in nearly all situations. It affords an early and nutritive herbage, and is relished by all animals. It is perpetually flowering, and affords an abundance of rich seeds. It is hardy and self-propagating and seldom requires to be sown, but springs up wherever the ground is uncultivated.

Narrow-Leaved Meadow Grass, (P. angustifolia,) Fig. 15. This is an early pasture grass, throwing out a profusion of slender leaves. It flowers



FIG. 16.

late, and before it has reached this point of its maturity, it is liable to rust, which diminishes its value for hay. It is for this reason, as well as its diminutive size, much better adapted to pasture than hay.

Red Top, Herds' Grass, Foul Meadow, or Fine Bent Grass, (Agrostis vulgaris,) Fig. 16, is a hardy, luxuriant grass, loving a very moist soil, and somewhat indifferent as to its texture. The scale of its nutritive properties is put down in the Woburn experiments, at a remarkably low rate, being less than one fourteenth of the value per acre of Timothy in the seed. We think there must be an error in this estimate, as it grows luxuriantly under favorable circumstances, and is relished by cattle. It is seldom cultivated by observing farmers, where the better grasses will grow.

Upright Bent Grass, Herds' Grass, or Foul Meadow, (A. stricta,) is similar to the foregoing, and by some is deemed only a variety.

Tall Oat Grass, (Avena elatior,) is an early luxuriant grass, growing to the height, sometimes, of five feet. It makes good hay, but is better suited to pasture. It flourishes in a loam or clay soil.



FIG. 18. FIG. 17.

FIG. 19.

The Tall Fescue, (Festuca elatior,) Fig. 17, would appear by the Woburn experiments, to yield more nutritive matter per acre, when cut in flower or seed. This is a native of the United States, and is best suited to a rich loam. It is not extensively cultivated in this country.

Meadow Fescue, (F. pratensis,) Fig. 18, likes a rich boggy soil, bears well, and produces an early grass, much relished by cattle, either green or cured as hay.

Spiked Fescue, (F. loliacea,) Fig. 19, is adapted to a rich loam, and produces the best of hay and pasture.



FIG. 20.



FIG. 21.

The Purple Fescue, (F. rubra,) *Sheep's Fescue, (F.*

ovina,) Fig. 20; *The Hard Fescue*, (*F. duriuscula*,) Fig. 21; and the *Floating Fescue*, (*F. fluitans*,) Fig. 22, are all indigenous to this country, and good pasture grasses. The last two are good hay grasses, though the former is rather diminutive.

The floating fescue requires to grow in a very wet and strong clay soil, when it will be found to yield a large burthen of nutritive forage. The seeds are small but abundant, sweet, and fattening. All fowls are fond of the seed, and all animals of the seed and herbage.



FIG. 22.



FIG. 23.

Orchard, or Cock's Foot Grass, (*Dactylis glomerata*,) Fig. 23 is indigenous, and for good arable soils, and especially for such as are shaded, it is one of the most profitable of grasses grown. It should be cut for hay before it is ripe, as in seedling it becomes coarse and hard, and is less acceptable to cattle. It is ready for the scythe with the clover, and after cutting, it immediately springs up and furnishes three or four crops of hay, or constant pasturage throughout the season. It should be fed closely, to secure a tender, succulent herbage. The seed is remarkably light, weighing 12 or 15 lbs. per bushel. Twenty to thirty pounds are usually sown upon one acre; yet ten pounds on finely-prepared soils have been known to produce a good sod, over the entire ground. It flourishes from Maine to Georgia.

American, or Swamp Cock's Foot, (*D. cynosuroides*,) is an indigenous swamp grass, yielding a large amount of grass or hay of inferior quality.

Biennial Rye Grass, or Ray Grass, (*Lolium perenne*, or *bienne*,) Fig. 24, and *Italian Rye Grass* are highly esteemed grasses in Europe. They have been more or less cultivated in this country for many years. They were not successful on their first introduction here, owing to our severe frosts. Recent experiments, however, have shown them to be sufficiently hardy for the middle states; and they are now extensively cultivated in the neighborhood of New York, where they are highly esteemed both for hay and pasturage. On good soils, they yield large returns of valuable forage. It is better to sow early in the spring, either by itself or with barley. With oats or wheat, it does not succeed so well. When put in with Timothy and orchard grass, the latter has usurped the place of both the others in a few years. Heavy clay lands are liable to throw out the roots by frost, and thus winter-kill.

Fiorin Grass, (*Agrostis stolonifera*,) Fig. 25, has been much lauded in England of late, but it has made little progress in the estimation of American farmers, and probably with sufficient reason. It is a diminutive grass, affording considerable nutriment in a condensed form, and is adapted to a winter pasture. It grows on a moist clay or boggy soil.



FIG. 24.



FIG. 25.

It is probably on such, and in moist climates only, that it attains its full size, character, and value. Many results have been attained with it in England and Ireland, which would seem to commend it, as a valuable forage plant, in its appropriate soil and climate. Several of the fiorin family abound in this country, among which is the squitch, couch, or quick grass, which are considered as pests in the cultivated fields.—*Allen's American Farm Book*.

ADULTERATION OF FOOD.—NO. 9.

Pickles.—These, it is well known, are generally vegetable substances, infused in vinegar, and seasoned with spices or aromatic substances of various kinds. In some, the chief aim of the manufacturer is to render them as white as possible, as onions, cauliflowers, &c.; in others red, as cabbages and tomatoes; and lastly, in others green, as cucumbers, gherkins, the pods of beans, capsicums, &c.; and it is the last-named class with which we have principally to deal; for, in the greater part of them, their green color is due to the presence of copper. Indeed, some go so far as to assert that it is impossible to make green pickles without the use of this metal. This, however, would seem to be disproved, if the directions given at p. 290, in our sixth volume be correct.

It has been the custom from time immemorial to use copper for the purpose of imparting a green color to pickles, as may be gathered from many books on cookery, and in fact, most of those ordinarily sold in market, are contaminated with this metal, and sometimes it is practiced to an alarming extent.

In some of the recipes for greening pickles, it is recommended to boil the vinegar in a bell-metal or copper pot, and pour it boiling hot on the substance to be pickled; in others, a mixture of verdigris, (diacetate of copper,) distilled vinegar, alum, and salt are recommended; and in a third method, this system of poisoning is made more simple and easy by scalding the substances to be pickled in a brass

kettle or in an iron or tin one with our common copper coins.

Vinegar.—This well-known condiment is prepared either from sugar and water or the saccharine juices, or sap, of trees and plants, the infusions of malt, malt liquors, wine, and cider; and, lastly, by the destructive distillation of wood, in cast-iron cylinders.

The ordinary vinegars of commerce are frequently adulterated with sulphuric acid, to give them more acidity, and with different acrid vegetable substances to produce an apparently stronger article. Among these, the most common are the grains of Paradise, spurge flax, and capsicums. Much of the vinegar sold under the name of "white-wine" consists of strong acetic or pyroligneous acid, diluted with water. A similar mixture is also sold for distilled vinegar. And finally, several salts are found in vinegars, as those of lead, copper, acetate of lime, chalk, and common salt. The latter are generally added for the purpose of increasing the density of the vinegar, where its strength is liable to be ascertained by means of the hydrometer. In some cases, however, the salts of lead, copper, and of zinc, found in vinegar, are derived from contact with leaden and brass vessels in which it is kept, and from the taps employed in the apparatus made use of in its manufacture.

Anchovy Sauce and Paste.—Not only are the sauce and paste, prepared from anchovies adulterated, but even the fish themselves are imitated; and in fact, very many bottles sold under the name of anchovies, are nothing but prepared sprats. This, however, is easily detected, for the appearance of the two fish is very different, and an attentive examination of the form of the two will suffice to point out the distinguishing characteristics of each, in so marked a manner that the fraud will at once be detected.

The falsification as regards the fish, however, is unimportant, when compared with the deleterious nature of the substances employed in manufacturing anchovy sauce and paste. For, the red color of both these preparations is due to an admixture of Venetian red, which, in itself, is comparatively harmless, but which, when taken in quantity, might occasion serious obstructions in the bowels. This, however, is not the worst; for Venetian red is sometimes mixed with red lead to heighten its color, and it is to be feared, that the more unscrupulous of the manufacturers of these articles purposely add this poisonous substance, which results in much sickness and even the loss of life itself.

Anchovy sauce and paste are also adulterated by bruising up sprats and other cheap fish into a pulp, mixed with flour and the necessary seasoning for anchovy sauce; and even a very large percentage of flour with plaster of Paris and chalk is fraudulently introduced to the exclusion of a corresponding proportion of fish. When chalk and plaster are added, red lead is substituted for Venetian red, in order to make up for the decrease of color the white admixture occasions.

A LARGE HORSE will eat 10 lbs. of oats, 4 or 5 lbs. of hay, and about 60 lbs. of carrots in a day.

SCHOOL OF AGRICULTURE AT METTRAY.

THE colony at Mettray, near Tours, about 150 miles from Paris, was founded in the spirit of the good Samaritan, which succors the wounded and forsaken traveller by the wayside, takes him home, and there nourishes and cherishes him. This establishment grew out of the compassion of two gentlemen of high rank and fortune, who were moved to essay what could be done for the rescue of unfortunate, condemned, and vagabond boys, to save them if possible from destruction, and give them the power of obtaining an honest living. It is not consistent with my plan, in this place, to go further into the account of the institution, than as a *School of Agriculture*, though the directors propose three objects of instruction to qualify their pupils for farmers, sailors, or soldiers. The discipline of the institution is military. They have a full-rigged ship of ample size in the yard, that boys designed for naval life may here take their first practical lessons; and they have a well-stocked farm of 500 acres, which is under direction to be cultivated by the pupils. The institution is situated in a healthy part of the country, and near a large market town. They employ an educated and experienced agriculturist as director of the farm. The first object is to render it productive, that it may go as far as it can be made to go towards defraying the expenses of the institution; the second, to instruct the boys in the best and most improved methods of husbandry.

The institution had its foundation in private subscription, and though in its commencement it had many difficulties to struggle with, it has now a firm establishment. Besides a farm, there are connected with the institution a large garden, an extensive nursery, and a manufactory for the fabrication of all the implements, carriages, &c., which are used on the farm. The boys are likewise employed in the making of the shoes, caps, clothes, and bedding, which are required, and many fancy articles which serve for sale, and give them occupation, when by any circumstances they are prevented from out-door labor. The number of pupils is at present 450. It is not intended to keep them after sixteen, but they are willing to receive them at the earliest convenient age. I saw several not more than six or seven years old. They live in families of forty or fifty, in separate houses, under the care of a respectable man and his wife, who give them their whole time. This seemed to me a most judicious provision. They have a guardian with them in the fields, who always works with them. Many of them have been condemned at courts of justice for some petty offence, and many of them, orphans and friendless, have been taken up in the streets in a condition of miserable vagabondage. The discipline of the institution is altogether moral and paternal. Confinement, abstinence, solitude, and disgrace constitute the chief punishments; but there are no whips, no blows, nor chains. It has been so far eminently successful. A boy, who had been early familiar with punishment and prisons, and now for some time a resident at Mettray, was asked, Why he did not run away from Mettray? His memorable answer was, "Because there are no bolts nor bars to prevent me."

When one looks at the innumerable herds of children, turned, as it were, adrift in a great city, not merely tempted, but actually instructed, stimulated and encouraged, in crime, and observes them gradually gathering in and borne onwards on the swift current with increasing rapidity to the precipice of destruction, until escape becomes almost impossible, how can we enough admire the combined courage, generosity, and disinterestedness, which plunges in that it may rescue some of these wretched victims from that frightful fate which seems all but inevitable? I do not know a more beautiful, and scarcely a more touching passage in the Holy Scriptures than that which represents the angels in heaven as rejoicing over a repenting and rescued sinner. It is, indeed, a ministry worthy of the highest and holiest spirits, to which the Supreme Source of all goodness and benevolence has imparted any portion of his Divine nature.

* If we look at this institution even in a more humble and practical view, as affording a good education in the mechanical and agricultural arts, its great utility cannot be doubted; and much good seed will be sown here, which, under the blessing of God, is sure to return excellent and enduring fruits.

I should have said before, that there is connected with the institution a hospital which is a model of cleanliness, good ventilation, and careful attendance; all the services of which were rendered by those indefatigable doers of good, the Sisters of Charity.—*Colman's European Agriculture.*

MORAL INFLUENCE OF VINEYARDS.

In a moral view, one would at first be inclined to dread the effects of such a production, (wine,) upon the habits of the people. It would not be true to say there is no drunkenness in France; but, account for it as we will, temperance is pre-eminently the characteristic of the French people, and I believe them to be, without question, the most sober of all civilized countries. In the rural districts, wine is the ordinary drink; but this is not in itself a strong wine, and is almost invariably diluted with water.

Much complaint has been made that such immense tracts of land are devoted to the production of wine instead of bread; but, in many of the bread-growing countries, a far larger proportion in value of the product has been devoted to the manufacture of a drink far more intoxicating, and much more fatal to peace, public order, domestic happiness, and all good morals, than the mild and ordinary wines of France; which, when unadulterated, are the pure juice of the grape, and have not the strength of common cider. I was in the vine-growing countries in the season of the vintage, when wine in the greatest abundance was free to all, but there was no more excess than at any other season. We could hardly expect these laborious people, whose chief solid subsistence is bread, to limit themselves to water, and we could not but feel grateful that God had given them so innocent and delicious a beverage to cheer and sustain them under their toil. It is not the use but the abuse of these precious gifts of heaven, which constitutes the criminality, and converts them into a fatal poison.—*Ib.*

NEW-YORK STATE AGRICULTURAL SOCIETY.

The Annual Meeting of this Society convened at the Assembly Chamber, in Albany, on Wednesday, January 17th, and continued in session two days.

The Annual Reports of the Treasurer and Executive Committee were read and accepted.

The following are the names of the officers of the society for the ensuing year:—

For President, John A. King, of Queen's.

For Vice Presidents, 1st District, James Monroe, of New York.

2d District, Saxton Smith, of Putnam.

3d " E. P. Prentice, of Albany.

4th " Le Roy Mowry, of Washington.

5th " William Fuller, of Onondaga.

6th " David Maine, of Madison.

7th " John Delafield, of Seneca.

8th " Henry W. Rogers, of Erie.

Corresponding Secretary, Benjamin P. Johnson, of Albany.

Recording Secretary, John Mc D. Mc Intyre, of Albany.

Treasurer, Luther Tucker, of Albany.

Executive Committee, J. B. Burnett, of Onondaga; P. N. Rust, of Onondaga; Henry Wager, of Oneida; J. J. Viele, of Rensselaer; Samuel Cheever, of Saratoga.

The Hon. J. P. Beekman, from the committee appointed from each judicial district, under the resolution of Mr. Peters, made the following report, which was adopted:—

Resolved, That the committee do recommend to the Executive Committee, the city of Syracuse as the location of the next Fair, provided security be given to the satisfaction of the Executive Committee, that the local expenses of the fair be discharged by the citizens of Syracuse, the sum not exceeding \$3,500.

The secretary announced that he had received from Mr. Hovey, of Boston, a splendid volume of "Hovey's Fruits of America," as a present to the society.

On motion of Mr. Marks, of Greene, it was

Resolved, unanimously, That the thanks of the New-York State Agricultural Society, be presented to C. M. Hovey, of Boston, for the gift to the society of his superb work on the "Fruits of America."

The secretary laid before the society a copy of the second volume of Professor Emmons' work on Agriculture, being part of the series of the Natural History of the state, whereupon on his motion, it was,

Resolved, That the work of Professor Emmons on Agriculture be recommended to the examination of the Executive Committee, and that if by them approved, that an abridgement of it be recommended for publication and diffusion through the schools of the state.

The President having alluded to the splendid collection of valuable fruits, which had been brought together on the tables of the society, offered the following resolution:—

Resolved, That Messrs. Wendell, Howard, and Johnson be a committee to prepare samples of our best winter fruits, and forward a box to the London, Paris, and Belgium Horticultural Societies,

with a letter from the secretary of this society, in relation to the same.

On motion of Mr. Cheever, of Saratoga, it was

Resolved, That a committee of three be appointed to apply to the Canal Board for a reduction of tolls on agricultural implements, fences, seeds, and manures.

On motion of Mr. S. A. Foot, of Ontario, it was

Resolved, That the society petition the Legislature to pass a law directing the publication of a large edition of the Natural History of this state, and the sale of the same to the citizens thereof, at the cost price of publication, and that the president and secretary prepare such petition, sign the same in behalf of the society, and present it to the Legislature.

On motion of Mr. B. P. Johnson, it was

Resolved, That the society most cordially approve of the recommendation of His Excellency, the Governor, on the subject of AGRICULTURAL SCHOOLS, and would respectfully and earnestly urge its consideration, and the early action of, by the Legislature.

An analysis of Indian corn, for which the society had offered the sum of \$300, was presented by Mr. James H. Salisbury, of Albany, which was referred to a committee for examination.

HYBRIDIZATION AND CROSS FECUNDATION OF PLANTS.

HYBRIDIZATION, strictly speaking, is the art or act of obtaining an offspring or progeny between two different species of animals or plants; and *cross fecundation* or *cross breeding* is the production of a progeny or race between varieties of the same species. It was maintained by Buffon, Hunter, and other naturalists of the last century, and is yet assumed by many scientific men of the present day, that the hybrid offspring or progeny of two distinct species of animals or plants is incapable of begetting or reproducing its kind; thus making hybridity the test of specific character. From this we may infer, that the progeny of hybrid plants cannot produce seeds; but that produced by cross fecundation may be regarded as fertile.

The observations and experience of practical gardeners and florists would seem to justify the following maxims, as affording some guide to the production of new varieties or races:—

1. The existence of sexes in plants is now universally acknowledged, as occurring in the same flower,—in separate flowers on the same plant, or tree,—as well as in those of trees distinct from one another.

2. Plants nearly related, that is, closely similar in the structure of their several parts, are those only which will immediately impregnate with each other; but it is impossible, at present, to say what families of plants may or may not be brought into fertile union through intermediate crosses. Not long ago, the azalea and rhododendron were thought to be incapable of such union; but this opinion is now exploded; for the Pontic rhododendron, (*R. ponticum*), has been fecundated with the pollen of the Chinese azalea, (*A. sinensis*), and the progeny between that evergreen and the last-named deciduous-leaved shrub, is the previously-unknown phenomenon, a yellow rhododendron. In like manner, the

brassicas, (cabbages, turnips, &c.,) mix freely with brassicas in all their gradations, as well as the cucurbitaceæ (melons, pumpkins, gourds, &c.) There are some exceptions, however, to this rule; for the beautiful pelargonium and the scarlet geranium, though nearly allied, according to the classification of modern botanists, have not, hitherto, been able to mix. Again, the raspberry and strawberry are regarded as first cousins; yet, after several attempts, they have not hybridized. The gooseberry and currant, too, are nearly related; still their alliance seems invincible, though tried by skilful hands.

3. The color of the future blossoms, (not of those first hybridized,) seems to be most influenced, though not invariably, by the male plant, if its seeds and flowers are darker than those of the female. Mr. Knight found, that when the pollen of a colored-blossomed pea was introduced into a white one, the whole of the future seeds were colored. But when the pollen of a white blossom was introduced to the stigma of a colored blossom, the whole of the future seeds were not white. Captain Thurtell, from lengthened observation and experiment, also informs us, that he has always found the color and spot of the petals of the pelargonium to be more influenced by the male than by the female plant. On the contrary, however, he observed that the form of the petals follows most closely that of the male plant.

4. Large stature and robustness of habit, according to Mr. Knight, are transmitted to the progeny by either of the parent plants. Therefore, it does not absolutely matter, for obtaining this characteristic, whether the plant, male or female, be large; but he generally found that the most robust female plant produced the finest result. When a good fruit or culinary vegetable is wanted, he recommends that the largest seed from the finest fruit or plant, that has ripened earliest, and most perfectly, should always be selected. In stone fruits, if two kernels are in one stone, these give birth to inferior plants. The florists of the present day, however, are opposed to Mr. Knight in their practice, as regards the hybridization or cross fecundation of ornamental flowers; for they recommend the weakest plants, and those that germinate last, where chastity of form and beautiful marking are required, to be taken the greatest care of, as they are sure to produce the most valuable flowers.

Mode of Obtaining Varieties.—The most successful mode of obtaining good and very distinct varieties, is to employ the pollen of a male flower, grown on another plant, from a distance, and not that bearing the female, or that in which the fecundation is to take place. When the plants are in flower, carefully extract with a pair of sharp-pointed scissors the anthers, if any, from the female flower from which you intend to produce seed, and also destroy all male flowers, or those having anthers, of the same species that are in the immediate vicinity, before they arrive at maturity, or your attempts will be of no avail; for Nature will have performed her part, and instead of a hybrid, you will have a natural progeny. In order further to avoid previous and undesired impregnation, the female flower should be inclosed in a case covered with gauze, and thus continued until the process

of hybridization is complete, to exclude insects, and the effects produced by strong currents of air before the desired pollen is ripe. Another effectual mode of preventing undesired impregnation is bringing the female plant into flower a little earlier than its congeners, and removing the anthers as directed above. For the stigma will remain vigorous, if unimpregnated, for several days.

After extracting the anthers from the flower you wish to bear seeds, carefully watch the progress of the stigma, and as soon as you find it in a condition to receive the pollen, select the matured anthers from a distance, and bring them in gentle contact with the stigma, to which a sufficient quantity of pollen will adhere. If a double flower should chance to have a fertile anther or two, these should be employed for fertilization, as the flowers of their progeny will almost be sure to be double. Although the fecundity of all the seeds in one seed vessel may be secured by applying pollen only to one style, even where there are several, yet the quantity of pollen is by no means a matter of indifference. Koelreuter found, that from 50 to 60 globules of pollen were required to complete the impregnation of one flower of *Hybiscus siriacus*; but in *Mirabilis jalapa*, and *M. longifolia*, two or three globules were enough; and in the case of *pelargoniums*, Captain Thurtell says two or three globules are certainly sufficient.

In the course of the process, the seed vessel is not altered in appearance, by impregnation, from that of another plant; therefore, no hasty conclusion of failure is justified by that want of change. It is easy to discern, however, whether the fecundation has been effected; for, when this is the case, the stigmas soon wither. The stigmas which have not received the pollen remain for a long time vigorous and green.

M. Haquin, a distinguished horticulturist at Liege, has impregnated flowers of the azalea with pollen kept six weeks; and camellias with pollen kept 65 days. He gathers the stamens just before the opening of the anthers, wraps them in writing paper, places them in a warm room for a day, collects the pollen they emit, and preserves it in sheet lead, in a cool dry place. Mr. Jackson, of Cross-Lane Nursery, near Bedale, states that he found the pollen of *Rhododendron smithii tigrinum* to retain its fertilizing power even for twelve months. This property of pollen was verified by experiment, in Persia, by the elder Michaux, as early as the year 1782, in observing that the male flowers of the date, (*Phoenix dactylifera*.) will keep during the year, and yet impregnate the female.

D. J. B.

New York, Feb. 3d, 1849.

AMERICAN PRODIGALITY.—No observing American comes from the United States to Europe, without soon becoming convinced that economy of living is nowhere so little understood as in his own country; and that for nothing are the Americans more distinguished, than for a reckless waste of the means of subsistence. The refuse of many a family in the United States, even in moderate circumstances, would often support, in comfort, a poor family in Europe.—*Colman*.

CULTIVATION OF LOWLAND RICE.

The most favorable situations for cultivating the common, or lowland rice, (*Oryza sativa*.) are on the rich alluvial lands in Carolina and Georgia, where the fresh waters of the rivers, in their descent, repel the salt waters of the sea, which, twice in 24 hours, rise high enough to irrigate these lands—and twice in 24 hours, fall low enough to drain them. In order to protect them from overflowing by the tides, or freshets, caused by copious rains or the melting of mountain snows, dykes, or embankments, are constructed along the borders of the rivers, their height and distance from the river brink, depending on local circumstances. When the dykes around the fields have been completed, water gates, (called also trunks, or flood gates,) are put down sufficiently low to drain the water from the lands when the tide subsides in the river, and to reflow them whenever it may become necessary for the crop, when the tide is full.

These objects being fully accomplished, the ground may be reduced to good tilth by the plow, hoe, or spade, and harrowed twice, in as dry a state as possible before sowing. In the southern states of the Union, as well as in most of the West-India Islands, as soon after the equinoctial rains in March as is practicable, the soil may be prepared for sowing by making trenches 14 inches apart, with a hoe or a double-moldboard plow, into which the paddy, or rice seeds, may be carefully scattered and then covered with two inches of soil; or the seed may be sown broadcast, at the rate of two bushels to two bushels and a half to an acre, and immediately covered with a light harrow having many teeth.

As soon as this operation is completed, the flood gates should be opened, the water let in, and kept on the field from five to ten days, or until the rice is found to be germinating at its bud. The water should then be withdrawn from the field from four to ten days, or until the green plants are seen rising about the field or along the drills. Next, the water should be let in upon the field and kept there from two to four days more, which will push the young plants forward. Again the water should be withdrawn for the second time, and as soon as the rice has risen a few inches in height, and the surface of the soil becomes dry, the grass and weeds should be carefully cleaned out from the drills, and the intermediate spaces lightly hoed, and the field left to dry for two or three days, in order that the weeds may be completely killed by the sun. The water may then be let in for the third time, for a period of a week or ten days more, taking care not to let it in too deep, (say three or four inches,) so as not to drown the plants in the lower parts of the field, it being a good sign to see the tops of the young rice plants just above the water. For the third time, the water may be withdrawn, and as soon as the ground is sufficiently dry, the plants carefully hoed again, but deeper this time than the first. The field being thus cleaned, it may be flooded again for the fourth time, and if water can be had, the plants may be thus kept until four or five days of harvesting the crop, which may be known by three or four of the lowermost grains of the rice beginning to turn yellow.

In China, as well as in some parts of Italy, where

they depend upon flowing their rice lands either upon the rise of the rivers above their banks in periodical freshets, which is but for a short portion of the year, or from tanks and reservoirs, where water is kept in reserve to let down upon their fields as occasion may require, the ground is most carefully prepared. In Italy, they plow and harrow their lands, let a small portion of water upon them, and while the soil is in a semi-fluid state, the rice is sown broadcast over the fields and the water is not suffered to be drawn off until just before the rice is cut. Consequently all hoeing or weeding must be done by the laborers wading in the water, very much to their inconvenience and great injury of their health.

In China, during the growth of the rice, which is first sown in patches and then transplanted in drills, 10 or 12 inches apart, the fields are always kept flooded, when water can be obtained. The terraces near the base of the hills are supplied by the mountain streams, and the fields, which are just above the level of any adjoining river or canal, are flooded by the ancient water wheel that is in use all over the country. The rice lands are kept flooded in this way until the crops are nearly ripe, when the water is no longer of use. Once or twice, at least, in the course of the summer, it is deemed necessary to go over the ground and well stirring the soil amongst the roots, at the same time, removing any weeds which may have sprung up.

THE COW—HER DISEASES AND MANAGEMENT.— No. 10.

Inflammation of the Bag or Udder.—This is a very common disease, also called “garget,” or the “yellows,” the attack of which is generally sudden. Milking cows are most subject to it, more particularly old ones; and if the complaint is not early checked, the loss of one or more of the quarters, (of the bag,) is generally the consequence. Therefore, proper medicines cannot be too soon administered to stop its progress; for, if neglected in the first instance, and the inflammatory symptoms should rapidly increase, it is liable to extend into the body of the animal and attack some of the vital parts, and death will be the result.

The most predominant cause of this disorder is from catching cold or a bad habit of the body, but more frequently the former. It may also proceed from other accidents, such as kicks, blows, or a poke from another animal; and sometimes by laying on the part affected herself, which is not unfrequently the case.

The first symptoms of the complaint are a sudden swelling in the milk bag or udder, in one or more of the quarters, attended with costiveness, fever, and loss of appetite; and previous to the attack, it is not unfrequently preceded by a cold shivering, or shaking of the extremities; and when the teats are drawn, the milk is dreggy or becomes coagulated. As the disease advances, the watery part of the milk is bloody, and, as the swelling augments, the bag becomes more red and inflamed, which gives the cow great pain when touched; her hair stands on end, and her hide soon adheres tight to the ribs. When the loss of a quarter takes place, and the inflammatory symptoms abate, the milk soon forms into complete corruption, or partakes of the character of pus.

If the disease originates from cold or bad habit of the body, bleeding is absolutely necessary, and no time should be lost in performing the operation. The quantity of blood to be taken must depend entirely upon the age and strength of the animal and the urgency of the case. Two or three quarts may be taken, if the cow is in good condition and the inflammatory symptoms run high; but if lean, or low in flesh, half the quantity will suffice. The best place to perform this operation is in the milk veins which are distinctly to be seen on each side of the belly, and communicate directly with the udders. Bleeding from these has a better effect in reducing the inflammation, than when drawn from any other vein, as it takes the load much sooner from the oppressed vessels, and consequently gives more room for circulation. When the operation of bleeding is finished, the following mixture may be given, at one dose, milk warm, in a pint of strong beer or ale:—

Sulphur, from 9 to 12 oz.; grains of Paradise, (cardamoms,) or long pepper, $\frac{3}{4}$ oz.; cummin seeds, $\frac{3}{4}$ oz.; tumeric, $\frac{3}{4}$ oz.; water gruel, 3 pints; molasses, 3 gills.

This drink will generally begin to operate in about twelve hours from the time it is given, if it does not meet with any particular obstruction in its passage; otherwise, it may be twenty-four hours. If it should not then operate, from three gills to a pint of cold-drawn linseed oil may be administered with the same quantity of tepid water gruel in which a small handful of common salt has previously dissolved. When this drink has done operating, the following medicine is to be given at one dose, in a quart of warm beer or ale, wherein a small handful of the leaves of wormwood or rue has been previously chopped and boiled:—

Flour of sulphur, 3 oz.; saltpetre, (nitre,) $1\frac{1}{2}$ oz.; madder, $1\frac{1}{2}$ oz.; grains of Paradise, $\frac{3}{4}$ oz.; valerian, $\frac{3}{4}$ oz.; cummin and coriander seeds, each, $\frac{3}{4}$ oz.

In the course of the treatment, each diseased quarter should be drawn out three or four times a-day, not forgetting, at the same time, to give friction to the parts affected with the hand; they should also be rubbed twice a-day with the following liniment:—

Lime water, 4 oz.; linseed oil, 2 oz.; spirits of turpentine, 2 oz.

The linseed oil and spirits of turpentine are first to be mixed together, after which the lime water must be added by degrees and well shaken, in order to make them unite.

If the inflammation runs high, and there is danger of mortification, the following ointment may be rubbed on the parts affected twice a-day:—

BLACK OINTMENT.
Take hogs' lard, 4 oz.; oil of vitriol, (sulphuric acid,) $\frac{3}{4}$ oz.; spirits of turpentine, 1 oz. Mix together for use.

The parts may also be fomented once or twice a-day with the following decoction which may be applied with woollen cloths or a large sponge:—

Wormwood, a large handful; camomile flowers, 4 oz.; bayberries, (*Laurus nobilis*), 2 oz.; juniper berries, 2 oz.

To be boiled in six quarts of beer grounds, (emphyngs,) or in water if these cannot be procured. It will also be advisable to give at one dose, in 2

quart of warm strong ale, once or twice a day, the following medicine :—

* Peruvian bark, $\frac{3}{4}$ oz.; powdered gentian, $\frac{3}{4}$ oz.; saltpetre, $1\frac{1}{2}$ oz.; valerian, $\frac{3}{4}$ oz.

The regimen of the cow, in this case, should consist of warm water or thin gruel, sweet hay, and once or twice a-day, a mash may be given made of malt, bran, or Indian meal, which is a very proper food during her illness, as it always tends to keep her body in a regular state.

When the disease proceeds from external accidents, such as pokes from other cows, kicks, blows, or by lying on the udders, or from the tread of another animal, the first method of cure is to bleed to the amount of from one to two quarts, according to the strength and condition of the cow, and then give, at one doze, milk warm, in three pints of water gruel, with which half a pint of molasses has been added, the following mixture :—

Epsom salts, from $\frac{3}{4}$ to $1\frac{1}{2}$ lbs.; valerian, $\frac{3}{4}$ oz.; cummin and anise seeds, each $\frac{3}{4}$ oz.; tumeric, $\frac{3}{4}$ oz.

After the operation of this medicine, the following may be administered, at one dose, in three pints of water gruel, once a-day, till the inflammation is removed :—

Saltpetre, 3 oz.; fenugreek, in powder, $1\frac{1}{2}$ oz.

In the mean time, the liniment described above is to be applied twice a-day to the swollen parts, and the bag rubbed hard as before recommended. If these rules are strictly adhered to, the cure will soon be complete.

This malady may also arise from improper milking, as leaving too great a quantity behind, in consequence of which the bag will swell, and the milk therein become ropy, coagulated, or thick; and if this practice be continued, it will frequently cause the loss of one or more quarters. Therefore, the bag should be clearly milked out; otherwise all attempts to cure will be of no use. If this neglect has been long continued, the udders become inflamed, in which case bleeding and purging will be requisite as above directed for pokes and kicks. When the operation of the purge has ceased, saltpetre and fenugreek, as well as the liniment may be administered, once a day, as above recommended, till the milk returns to its former healthful state.

The regimen, in each of the latter two cases, should be of an emollient kind, such as malt and bran mash, warm water, and gruel made of oat or Indian meal.

REVIEW OF THE DECEMBER NUMBER OF THE AGRICULTURIST.

Electro Culture.—Although this article is conclusive and satisfactory proof that whoever attempts to raise vegetables by lightning, must make up his mind to live on a most "thundering" light crop, as the error, like "God and Liberty," having once got upon the wires, will continue to make the circuit, and we shall for a long time continue to see accounts published of "the experiment." I hope hereafter that the "battery" will be confined to a couple of half pint tumblers, and the vegetable garden, a small flower pot, and with this apparatus, if experimenting gentlemen are disposed to raise a crop of water cresses for breakfast by light-

ning, their thunders will not be likely to shake the foundation of any horticultural society.

Adulteration of Food, No. 6.—Sugar.—That the frauds in this article have been most shameful, I have no doubt. Several other articles besides those mentioned, have been used—one of which is corn meal. I believe ten per cent. of meal has been used by suiting the color of the meal to that of the sugar. But about the worst adulteration takes place in the sugar house. In many of the sugar works of the West Indies, I have often observed, (for I was some time engaged in the carrying trade as master of a vessel,) no effort is made to keep the sugar clean; but on the contrary, with some, the vegetable matter and dirt is purposely boiled in to make weight. And to give the sugar a nice white look, it is washed with a nasty mixture of rum and other stuff. Furthermore, I am sorry to say that there are some Louisiana plantations where the same course is followed; though generally speaking, the Louisiana sugar is far superior to the West-India, not only in point of cleanliness, but in strength. The planters of that state are beginning to make refined sugar direct from the cane juice, fully equal in point of quality to any refinery in the country. And sugar from those plantations is now becoming so cheap, that it is hardly worth while to buy the coarse qualities that are usually most adulterated.

Book Farming.—I like the spirit of this article. The fact is, it is time this tirade against "book farming," was treated with the contempt it deserves. Call things by their right names, is my motto. And therefore I go distinctly for calling those who are continually harping about book farming, just what they are—either knaves or fools.

Phosphate of Lime.—Just a fine comment upon the spirit of the preceding article. Although the former may get a hint from these few lines that would be of immense benefit to him, if he follows out the hint, yet forsooth, he must not do it, or else some ignorant jackass will throw up in his teeth that he is "book farming."

Approved Varieties of Fruit.—If persons generally would just take this list and set out an orchard of the fruits named, and "seek-no-further," they would have an assortment that ought to satisfy any reasonable human being, and it would be far better than this eternal running after every fruit they happen to see advertised with a new name.

Agriculture of the Chinese, No. 12.—Tea.—So, it seems, that somebody else besides the Yankees are up to a "trick or two," in the adulterating line. Bah! That is the sort of broth we drink for tea, is it? Well, the best remedy that I know of is to drink water—pure water. But if we must drink tea, why not grow it ourselves. I have no doubt that it can be grown in the United States just as well as cotton, sugar, rice, and many other things that the world once used to go to the Indies for. I should like to see some articles in the Agriculturist upon growing the tea plant in America. [Dr. Junius Smith is now experimenting with the tea plant in South Carolina. See p. 381 of our seventh volume.]

Cultivation of the Common Locust Tree.—I have planted the seeds after they had been gathered so-

long and become so old that they had grown grey, (or else I had,) and they grew trees and bore more seeds that grew more trees and multiplied amazingly. And I'll tell you how I made 'em grow. I poured boiling-hot ley on them, and when they got cold, I planted them in good rich earth. And I advise *everybody*, to plant locust seeds and trees; for, behold it is good so to do.

Rough Notes by the Way, No. 4.—This may be a good enough title, (for what's in a name?) but the true meaning title to the story is,—"The way the rough path of life is easily made smooth." And it is told, too, in that pleasing manner that our worthy old friend always tells his pleasant stories. May he long live to take notes and tell tales, without ever finding a rough note in the remaining short way of a long life. Here is a true specimen of a *book farmer* described—a young man at the age of 28, who finding it needful, perhaps, to change his business, voluntarily apprentices himself to the trade of a farmer, and by close application to work and study for one year, he becomes not only able to manage for himself, but capable of learning a lesson to his neighbors who had spent their lives in the trade. No doubt they were surprised to see the sandy worn-out hills of a Jersey farm rise again into fertility, under the operation of his workings of magic, the secret of which he found, not where truth is buried, in the bottom of a well, but in the bottom of a well-muddled pond.

The Striped Bug.—This is an excellent and cheap way to get rid of the striped bug. I wish we could get rid of the *striped pig* as easy.

Farmers should Write for Agricultural Journals.—So they would if it were not for that eternal ding-dong kept up by those whose heads are as empty of everything, but sound, as those articles that only make a noise when their clappers are going ding-dong, ding-dong. They are afraid of being ridiculed as book farmers. This is another of the important reasons why this tirade of ridicule should be overborne. We can do it if we try.

Sunflower-Seed Oil.—There is no doubt but the same principle, if not the same machine, which hulls buckwheat or rice, will answer the purpose of hulling sunflower seed, and that the product of oil would be largely increased, though not so much as Mr. Danforth has stated. The same machine, too, would answer to hull cotton seed, from which many thousand barrels of oil might be annually extracted that is now wasted—literally wasted, without even using it for manure, as may be seen in many places in the cotton region, as we are told. There is another thing, too, that I have no doubt of; several of the oil-growing plants might be cultivated as a crop in the region where Mr. D. lives, to a much greater profit than the "great staple" can be. And I am glad to see the right spirit moving—the spirit of inquiry. I cannot answer the question of what would be the cost of mill and press, or I would with great pleasure.

The School House.—Having never in youthful days been in so good a looking one as this, I dare not venture now. But the article is such an interesting one that I beg every reader to bear it in mind, and never rest until he obtains a school house in his own district, just as good, if not just

like it. Above all things don't forget the ventilation. Having myself so long depended upon the wind, I am a strong advocate for a fresh breeze.

Agricultural Botany, No. 2.—From the great respect and esteem that I have for Dr. Darlington, who I am proud to say is a personal friend of mine, I cannot pass this article carelessly by. He speaks of the excellence of corn bread of the south, where it is almost universally found upon all the breakfast tables, whether a slab or mahogany one, besides the hundred-and-one other ways in which this excellent grain is cooked. One reason why southern corn bread is so much better than northern is, the quality of the corn, but the grand secret is in grinding. Yankee millers still persist in spoiling corn meal by close grinding. As to sugar from corn stalks, no sane man would ever think of it while cane sugar is less than five cents per pound, as it is now, and from the constantly-increasing crops of Louisiana, will continue to be most probably for a long time.

Kentucky Blue Grass.—I am bound to believe so good authority as Dr. Darlington, that this grass, and that known in our region as "green grass" is identical, and yet it does appear to me that the shape of the leaves are not alike—or is there two green grasses? The Kentucky blue grass, also, "comes in" to every old Indian encampment from Detroit to Prairie du Chien.

Spearmint.—This plant like the blue and green grasses, is so confounded and mixed up with peppermint, that confound me if I can sort 'em out. Which is it that we Yankees use to make oil of, which said oil we use to scent oil of turpentine with, which we then sell as "oil of peppermint?"

Lobelia, or Indian Tobacco.—"This is an acrid plant, possessing emetic, cathartic, and narcotic properties"—stop, stop, Doctor, you are describing the real Virginia weed; and that you know it is sacrilege almost to speak irreverently of in this very enlightened age and day of refinement. Refinement in a tobacco chewer's mouth. Oh, bah!!

Black Birch.—As in case of the blue and green grass, I should like to know if yellow birch is black. Perhaps if I had lived in my school-boy days, where them same "virgate branches" grew, I should have found out that black birch was a "twig of another color." Seriously, I hope my friend, "a friend to farmers," will continue his selections for these pages, for it is a truth that the little, though very valuable pamphlet from which they are taken is scarcely known.

Cultivating the Strawberry.—I wish Mr. Longworth would give a statement of actual occurrences that have taken place at Cincinnati in this culture, which we could depend upon for correctness, and which would show well by the side of this statement.

Two-Horse Wagons.—The one that you sold my neighbor Smith last fall for \$90 is a most excellent wagon. But it is not so very good to haul hay upon, as one without springs. In driving over rough ground, the load has a tendency to spring off. One great complaint against the use of spring wagons for common use, is the additional height to lift the loading. Cannot this defect be remedied in a great measure? It strikes me that it can. I

think the springs might be placed on the sides of the box, leaving just room enough for the vibration, between the bottom of the bed and axle. [There is a method of hanging them behind the axletrees, which brings the body quite as low as if placed almost directly on them; but the plan is not quite so strong as that represented in the cut.] To prevent any unpleasantness from concussion down upon the axle, when heavy loaded, use gutta-percha stops.

Treatment of Rose Bushes.—If soapsuds were used instead of water to mix with the cow dung, it would be all the better. Soapsuds, by the by, and no matter how strong or dirty, is one of the best manures for grapevines ever used. It is good to put on roots or leaves.

An Attempt at Housekeeping.—I have known a great many of that same, within 50 years past, and, from the nature of the present style of fashionable education now in operation for American housekeepers, I guess there will be a great many more attempts in the next 50 years to come, and I don't believe that some of them will ever be anything else but attempts. And what is the worst of it, many a similar spoiled dinner, like the one here related, will produce spoiled tempers. In truth, those "latter-day saints" of mothers, do not do their duty toward American daughters who are destined to become wives to American farmers.

Anecdotes of Animals.—Really, boys, these two stories, of the mouse, and "Yellow Ned," from the prolific pen of our excellent friend, E. S., are worth a whole year's subscription to the *Agriculturist*. If you have not read them, or if you have forgotten them, do turn back and read again. They are both instructive and amusing.

Agricultural Chemistry, No. 8.—These articles, as they progress, seem to increase in value. At first, I did not view them with any great degree of interest, particularly for the boys; but really the present number is not only very interesting to them, but may be read with much profit by some of us who were boys a long time ago. How exceedingly plain the description of the several substances here named is given. I hope Mr. McKinstry will go on with a long catalogue in the same style. It is the most interesting "agricultural chemistry" that I have ever read.

REVIEWER.

PROFESSOR NORTON'S REMARKS ON THE ESTABLISHMENT OF AN AGRICULTURAL SCHOOL BY THE STATE OF NEW YORK.

At a discussion which took place at the State Rooms, in Albany, on the 4th of January, relative to that part of the late message of the Governor, recommending the establishment of an Agricultural School, Professor John P. Norton, of Yale College, rose in compliance with a request of the Chairman. He expressed his great satisfaction at seeing the interest evinced on this subject, by those who desire to advance the cause of agriculture in the state of New York. There is hope that when such a state makes a decided movement—whatever institution may be established under its auspices will answer public expectation.

Mere theory, he said, was not the true test of the usefulness of such an establishment. It must be on a liberal scale, or its good would be imperfectly

felt. Among all the European agricultural schools, and he had seen most of them, there were but two or three which were not on an exceedingly limited plan; even with them but few men, that could really be called men of science, were connected.

One of the principal points to be regarded, is, that the theoretical teacher be able also to impart practical instruction. The school should unite practice and theory—that the scholar, however enlisted in the theory, may bring it to the test of experience, and see whether it is consistent, or at variance, with the actual results produced. This is one of the strongest reasons why government should control such a school; since it could afford the necessary means to fully develop at once both theory and practice, in any department of agricultural science.

Professor N. would not wish chemistry brought forward too prominently in such an institution—but would place all the various forms of knowledge on an equal footing, having all so adjusted and so arranged, that we should not have, as is now too often the case, a long series of experiments, producing no decisive satisfactory results, for the reason that they are made in different regions, on different soils, in different climates, in accordance with no fixed rules, and with want of scientific knowledge. Such experiments are often worse than useless, leading but to confusion. He alluded to the different theories of distinguished authors, the true test as to the *economical value* of which had been, after all, the experiments of practical men. It was, for instance, at one time said, that the potato contained neither the substances necessary for the fattening of stock nor for the formation of muscle, but this had been found an error. Scientific men had made great mistakes, even Liebig, in reference to several points, and had done much harm through a lack of practical knowledge.

The union of the scientific and the practical, in such an institution, should be complete. The man at its head should be well versed in all the scientific discoveries of the day, competent to seize upon whatever new propositions presented themselves, and to subject them to the ordeal of experience. In that way the most decisive results would be obtained.

He hoped that in the establishment of this institution, a very prominent place would be given to such scientific investigations as would tend to a thorough examination of questions concerning which theoretical men were at issue. The want of these, and of the proper men to carry them out, are the reason for the failure of so many agricultural schools. Farmers would soon lose their confidence in any school which could not afford them reliable information on these matters. The state of New York, the leading state in the Union, should pursue a policy which would lead to the permanency of the undertakings that are commenced.

There is always to be a struggle with crude and imperfect notions. He had been astonished to hear last winter at one of the meetings held in the capitol, the assertion made—that in such an agricultural school as was then proposed, a scholar could be made a thorough analytical chemist by the study of some six weeks or two months. His experience in various laboratories, had taught him that

analytical chemistry was a study that could only be well pursued by years of laborious application—this was apparent from the very nature of the science. The analyses were made in such small quantities, that the utmost nicety was required, not merely of the chemist, but of the instruments which he used. Their mechanism must be as nearly perfect as possible, and he must have the skill to use them. The balances must be made so as to turn, even with the hundredth part of a grain—the most apparently trifling constituents of the thing analysed must be discovered—all these, and many other points not specified in any printed formula, must be attended to, or the work of analysis will not have been well performed.

He witnessed this, in seeing how difficult it was to impart to others the knowledge necessary to enable them to make an analysis; the labor of a year might be bestowed by a student before he would trust him to make an analysis of a soil out of his sight. Even with *many years* of experience puzzling questions constantly present themselves.

As some misconception might have arisen from his mention of the time necessary to make a good chemist, Professor N. wished to observe in few words, that while he wished to banish the idea that every farmer could do his own analysis, he considered that all farmers might, in a short time, become familiar with the *great principles* of chemistry as applied to agriculture. By means of lectures given in such a school, and by simple experiments shown there, he might learn what were the substances which composed his soil, his plants, his animals, his manures, &c. This knowledge would be of an eminently useful and practical character, would enable him to direct his efforts at improvement with far greater certainty than ever before, and also to draw much more light from the writings and experiments of scientific men.

There is this objection to the establishment of many small local schools, that it leads to a contrariety of results, and consequently the promulgation of just so many diverse theories—since from inadequate means, and ill-instructed teachers, the experiment would, in many cases, be inadequately and imperfectly made. The completeness of the results in a perfected and central state institution, would prevent error—they would prove themselves. Then smaller schools would spring up under its auspices and be guided by its light.

The first and leading idea of this central school should be, what is the general economy of agriculture, what system will best develop the resources of every department of farming. Its constant endeavor should be to devise a system that by its combined results would show in which way the greatest good to the land, the greatest profits out of it could be attained. Every department ought to exhibit what might be called “a model” of its kind. The farm should embrace a great variety of land, so that every mode of managing the crops might be illustrated—the buildings, implements, and stock should be the best adapted for the purposes designed.

The experimental department, Professor Norton said, should be arranged under these heads:—

First, a *Chemical Department*, devoted to such in-

vestigations and researches in chemistry as would lead to valuable practical results.

Second, a *Veterinary Department*, where the diseases of animals can find proper treatment, and where the qualities of various breeds could be ascertained.

The third *Department*—a portion of the farm, on which to test the various questions discussed in the school and elsewhere, by cultivation.

He thought it perhaps doubtful, whether all would agree in assigning to chemistry so prominent a place. He paid a passing, but earnest compliment to Professor Johnston, of Scotland, as the principal *practical* chemist of the day. The results of the laboratory published to the world—the details of the experiments made, would be of such a character that practical men could benefit by them. These suggestions would not be tested in one year only, but by reason of the adequate means used, the facts would be established by long experience before promulgation. One test would not be considered sufficient to determine the certainty of a theory, but successive results would be required—and nothing taken for granted until it was clearly demonstrated.

Such an institution would find—it must find an individual suitable to carry it on—to commence it, and to direct it after commenced, to produce the most important results.

RAT CATCHING.

AT p. 182, of the seventh volume of the *Agriculturist*, also at p. 63, of the present volume, mention is made of enticing and destroying rats by means of a preparation containing the oil of anise and the oil of rhodium, &c.

As no definite directions are given for preparing and applying the mixture, you would oblige me, and probably many others, by inserting the *modus operandi* in your next number.

A PHILADELPHIA SUBSCRIBER.

In reply to the above, we would communicate to the public, and more especially to our discriminating subscriber, the following recipe, which was purchased by a friend, as a “secret,” from an old rat catcher:—

Take powdered assafœtida, 2 grains; essential oil of rhodium, 3 drachms; essential oil of lavender, 1 scruple; oil of anise, 1 drachm.

Let the assafœtida first be well triturated with the oil of anise; then add the oil of rhodium, continuing to rub the material well together with the pestle in the mortar, after which add the oil of lavender, and cork up the mixture in a close bottle until required for use.

The method of applying the compound, consists merely in smearing a tame rat with it, after mixing a few drops of it with a little flour or starch, or employing the paste thus formed as a bait for the trap. It is stated, that a tame white rat besmeared with it, let loose in a vault, has been known to be followed by half a dozen other rats, which appeared to be enamored by their albino decoy. A trap placed in a cellar, haunted by rats, and left there all night, was filled the next morning with these pests to the number of thirty, and was surrounded by a host of others, that actually could not enter from want of room!

NEW MANSION OF MR. CAPELL.

I HAVE just completed a dwelling house, which, to my own mind, combines neatness, convenience, and durability. All of the materials employed in its construction are of the best quality—the timber, cypress and yellow pine—plastered on the inside—a convenient staircase in the middle, and fine tin gutters with pipes at the eaves to conduct the water from the roof.

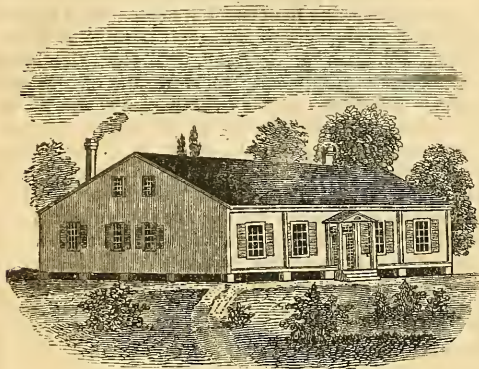


FIG. 27.

PERSPECTIVE VIEW FROM THE SOUTH WEST.

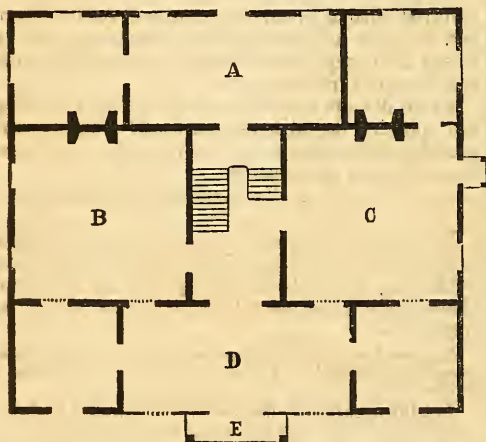


FIG. 28. GROUND PLAN.

Description.—The main body of the house, fig. 28, is nearly square, say 42 by 46 feet, with one portico, E, in front, $6\frac{1}{2}$ by $10\frac{1}{2}$ feet, and another on the south end, 6 by 8 feet.

A, denotes the dining room, 12 by 20 feet.

B, the parlor, 17 by 18 feet.

C, the family, or living room, 17 by 18 feet.

D, a gallery, $10\frac{1}{2}$ by $24\frac{1}{2}$ feet, which is between the front portico and the lobby, or hall, the latter being 10 feet wide and communicating with the parlor, living room, and dining room.

At each end of the dining room A, there is a fine bed room, 12 feet square.

At each end of the gallery D, is a small room, $10\frac{1}{2}$ by 12 feet.

The house is one story high, with an attic containing two fine large bed rooms with fireplaces to each. The cost of the whole, exclusive of the labor performed by my own negroes, was \$2,100.

E. J. CAPELL.

Pleasant Hill, Centreville, Miss., Dec. 13th, 1848.

EXPERIMENTS WITH GUANO.

I AM one of the pioneers in the use of guano in this section of the country, having used it for about five years. My first experiment was on an old worn-out sedge lot, on which I applied at the rate of 300 lbs. of Peruvian guano to the acre. The product was a fraction over 20 bushels of clean wheat per acre.

My second experiment was upon the same lot, with the addition of three acres adjoining. The quantity of guano applied was about 400 lbs. per acre, part Peruvian and the balance Patagonian. The product was 25 bushels of clean wheat per acre, exclusive of scrapings. In each of the above experiments, previous to sowing the wheat, I mixed about a peck of gypsum to every hundred pounds of guano.

My third experiment was also made with wheat on six acres of the same kind of land as the other two, which were plowed up directly after harvest and manured with 400 lbs. of Patagonian guano, mixed with two bushels of charcoal dust per acre, applied at the time of sowing. The wheat now looks fine, better than the years previous, but whatever the result may be, next harvest will tell.

It may be proper to state, that in my first experiment, owing to the previous season being wet, about one third of the seed sown did not come up; and in the second experiment at the time of seeding, the ground was somewhat like a mortar bed, and a considerable quantity of the wheat plants were winter-killed. The quantity of seed sowed in each case was two bushels per acre.

My fourth experiment was with potatoes, by spreading a handful of guano, mixed with plaster, to every one or two yards along the furrows after the tubers were dropped. The product was middling, size of the potatoes good, quality first rate, and no rotten ones.

I have also tried guano to Indian corn by applying it in the hill, but owing to the dryness of the season, I have not reaped that advantage I anticipated. In one instance, I sowed a small square broadcast, plowing in the seed, which resulted in from one third to one half more corn than when the guano was applied in the hill. The quantity of guano used was from 300 to 500 lbs. per acre.

I have also applied guano to my young fruit trees, as well as to almost every vegetable and flower on my grounds with marked success.

JACOB HEWES.

Leiperville, Pa., January, 1849.

A NATURAL BIRTH REGISTER.—When a native of Java has a child born, he immediately plants a tree, which, adding every year a circle of wood to its trunk, indicates the age of the tree, and therefore that of the child. The consequence is, the child regards the tree with reverence and affection as long as he lives.

THE STEAM ENGINE APPLIED TO PURPOSES OF AGRICULTURE.

WITHIN a few years, the steam engine has been applied in Great Britain to the purposes of agriculture with economy and marked success. It has been found very useful in threshing, winnowing, and grinding grain, crushing linseed, cutting chaff

and other fodder for stock, and will do sundry other things on the farm or plantation, such as grinding apples for cider, pressing cotton and hay, grinding sugar cane, sawing wood, pumping water, churning butter, &c., &c.

There are engines made, at present, in a portable form, with boilers attached, which can be transport-

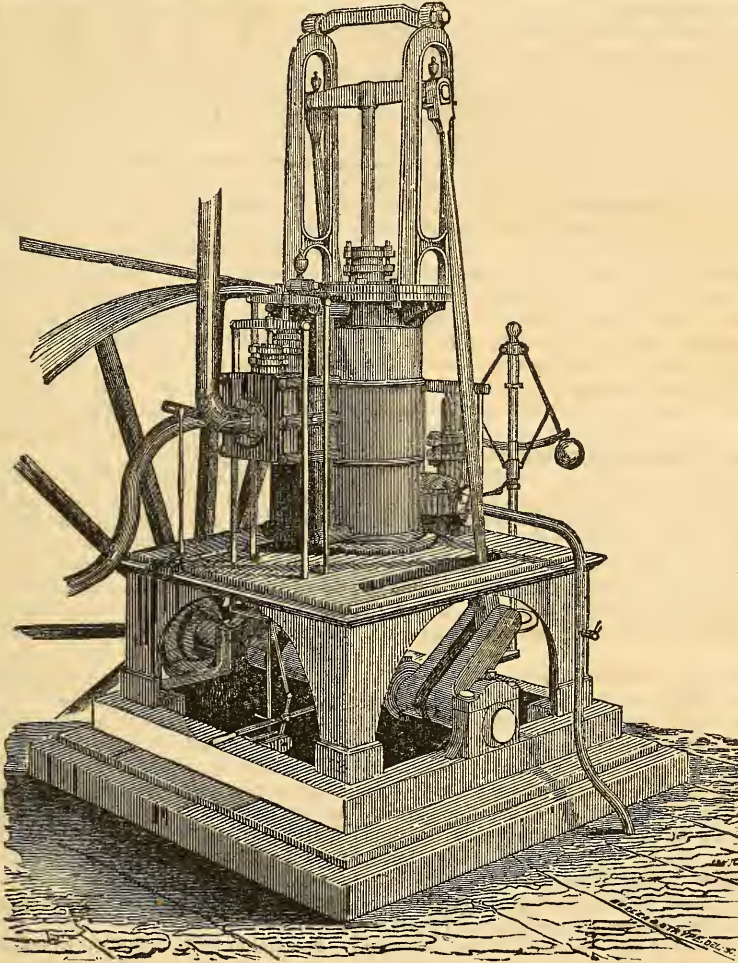


FIG. 26.—STEAM ENGINE.

ed from one farm to another, at a moderate expense, and if necessary, can be employed by night as well as by day. All things considered, an engine of this kind, cannot be looked upon otherwise than of great pecuniary advantage on a farm, as the expense for fuel and attendance of running one of six horse power, will not exceed 25 or 30 cents per hour.

A three horse-power engine of this description, with boiler, complete, can be had, on application, for \$500.

The cost of a ten horse-power engine, like that denoted by fig. 26, including boiler, complete, will not exceed \$2,000.

THE TWO SYSTEMS OF FARMING.—Under a low standard of agriculture, the object of the farmer is to collect the natural produce of the soil with the expenditure of as little money or labor as possible. But under a high standard, he does not grudge expense of labor nor of manure, in order to obtain a proportionate increase of produce; and he studies to obtain this by cultivating crops congenial to the soil, by growing them in such order that its natural powers shall be turned to the best advantage.

FACT IN FARMING.—In ordinary land, without manure, high tillage, and thorough pulverization of the soil, farming will give but poor returns.

AGRICULTURAL TOUR SOUTH AND WEST.—NO. 3.

I THINK in my last communication, I parted with my readers at Dr. Philips'. The day I left there, I had a conversation with Mr. Watson, a neighbor of the Doctor's, about the loss of stock on pea fields. Mr. W. has lost fourteen head of cattle this fall, (mostly fat heifers,) among which are two working oxen and one beeve.

These cattle were turned into the fields from the woods, while the peas were fresh and green, and in a day on two after, he was told that one of the herd was dead. He rode out directly to examine, and found two more dead, having dropped down suddenly, and without showing any symptoms of disease; and on opening them while still warm, he found no signs of inflammation. They were all very fat. The only signs of being affected by this mysterious cause of death, as he subsequently observed, was in the discharge of dung, which had a dark grumous appearance, more like blue clay mixed with dirty water and very soft. On being turned out into the woods again, they became healthy until some weeks after, when on being admitted to the field were again attacked, and several died. The same result followed the same course at a later period, when the peavines had all been killed by frost.

Hogs, that are affected by eating peas, show sickness before dying and on being opened present the same appearance as when dying of kidney worm, and a thick, glutinous matter stops the neck of the bladder. Mr. Watson cures hogs, when seen in time, by feeding large quantities of warm, greasy slop, very salt. To prevent their being affected, they should be fed liberally with corn, and well salted, both before turning into pea fields, and while they are in.

One of the good results of making good channels of communication between town and country, is seen along the Vicksburg and Jackson Railroad. The cutting and sending wood to the river for 15 or 20 miles back is found more profitable than a cotton crop. Dr. E. H. Bryon, at whose place I spent a night in Havre county, has found this particularly so. And as the banks of the Mississippi are becoming rapidly denuded of their forest growth, the time is near when wood from the interior lands will have to be sent in to supply the almost inconceivable enormous consumption by steamboats, and sugar making. Wood has been already profitably sent in flat boats from Green River, Kentucky, to New Orleans.

Profitable Culture of Havana Tobacco in Mississippi.—Mr. R. Y. Rogers, who lives among those interminable and almost inaccessible hills back of Vicksburg, raised on one eighth of an acre, the last season, a crop of tobacco, which, although only once cut, has brought him \$121, cash, leaving nine hundred cigars on hand and tobacco enough, except wrappers, to make three thousand more. The cigars readily bring him \$20 a thousand. Mr. R. is a small farmer and market gardener, and a gentleman of great enterprise, whose income from the amount invested, I presume is a greater percentage than any cotton planter in the state. In company with friend Rogers, we took saddle horses and rode over to Dr. George Smith's plantation, as the inconceivable unevenness of the surface, pre-

vented our travelling in a carriage. It would utterly surprise any one from the most hilly region of New England, to see the steep side hills here in cultivation. The plowing is done on the "level system," and the crop often has to be carried down by hand, as no cart can be driven up and down or round about, except as is sometimes done by attaching a rope to a stake on top of the hill, which prevents the cart from upsetting as it circles round, keeping the rope taut. We found on Dr. Smith's place a sample of economy often seen in other places besides Mississippi. He had about one hundred hogs, which, by dogs and traps, had been caught from the woods and shut up in square rail pens, eight to fifteen in a pen, to be fattened. I do not think that when killed they will average 100 lbs. each. The corn is shelled and boiled, and fed in troughs. The bottoms of the pens are rails—no shelter nor bed—wood, water, and corn, hauled half a mile. Now this corn, is worth 40 to 50 cts. a bushel in Vicksburg, and six miles to haul. The pork will be worth from 3 to 5 cts. Query—which would be the best economy, to shoot the hogs and sell the corn and buy pork, or feed it, with the hope of making it of such hogs—many of them now being two years old? The Doctor's corn is of a superior quality, and made this year a good crop. Not so with cotton.

I left Vicksburg, November 28th, on my way towards New Orleans, by land. A beautiful warm sunny day, and although the paddles yesterday morning showed a good covering of ice, the cold was not severe enough to dim the blushing beauties of ten thousand roses in the gardens by the wayside. The road to-day, lying over the most uneven surface ever cultivated, passed much land "worn out" and abandoned to the washings of the rains that fills the whole surface of an old field, in a few years, with impassable gullies. On the road side, a few miles before reaching Port Gibson, there is a gully big enough to bury a small town. These hills are all composed of an alluvial deposit, with nothing to prevent washing. As soon as the roots are decayed they dissolve with greater rapidity than though composed of salt. Near Port Gibson, I passed a Cherokee rose hedge which I saw planted, four years since. It is not yet a sufficient fence, though I believe that four years does often produce that result.

November 30th, I shall have reason to remember, as I came very near losing myself, horses, and carriage, in one of those remarkable quicksand creeks of this country. This one being well known to many an unfortunate traveller on the "old Kentucky trace," by the name of Cole's Creek. I am precluded from giving a full account, but suffice it to say that I came out on the same side that I went in, and by help of negroes and oxen, got the carriage out, without any serious damage, though I had a very unpleasant job of two or three days in getting dry and waiting for a fall of water, &c. Fortunately, I met with kind female sympathy in the wife of a Mr. Mackey, by whose assistance I got my wardrobe again in wearing order. The only way of crossing these quicksands with horses, after a time of high water, is to drive cattle across to settle the sand. Horses, when they get in, often become frightened and getting their feet fast, will

lay down and make no exertions to get out. This kind of stream abounds in this country, and the people say, they cannot be bridged. I think Yankee enterprise would try. Though I will acknowledge that the extreme unstable nature of the banks would make it difficult.

Visit to Mr. Affleck.—It is entirely superfluous to say that I met with a most gratifying reception from this old acquaintance of yours and mine, as well as from his most amiable wife. There are no brighter spots in life, than these meetings of old friends. I found Mr. A. as full of despondency at the result of the last cotton crop, as I have a hundred others within a few days, who complain with good reason of short crops and low prices. But as hope is the "sheet anchor of the soul," I found him full of that, upon the subject of a new business which he is now about entering upon. His little place of 47 acres, at Washington, Mississippi, he is now engaged in laying down into a nursery of fruits, shrubs, flowers, and plants—both out doors, in hot houses, and forcing beds, with the intention of supplying that region, as well as the New-Orleans market with such articles. He has an accomplished gardener, Mr. Drummond, from Scotland, and brother of him who gave the name to *Phlox drummondii*; and he has now on the way from Mr. Rivers, of London, a great assortment of bulbs and plants, as well as all that he can obtain in this country. I hope his success may be commensurate with his industry. Mr. A. can exhibit some of the advantages of underdraining in his garden and nursery grounds. This he is doing with joints of large reed canes. He thinks that they will last many years, and when decayed, that the hole in the clay will still afford drainage for many more years. At any rate, it is a cheap experiment. He has a Cherokee-rose hedge, now three years old, that will, in another year, be a good fence.

Bermuda Grass.—This grass is much objected to in many places, on account of its tenacity of life, but Mr. A. assures me that he finds no difficulty in killing or smothering it down by crops of the cow pea. This easily-managed and most valuable grass cannot be the same kind that is so much anathematized in Georgia.

Here, for the first time, I saw the "cholera among the turkeys,"—a disease that is at least as unaccountable as that of the same name in the human system; and which has slain its thousands among that branch of the poultry-yard family, within a few months, in this region. They drop from the roost frequently, and usually quite fat. The most beautiful tenents of Mrs. Affleck's yard, and in fact that I ever saw, was a couple of domesticated wood ducks. China and African geese, thrive here as though it was their native home. One of the great pests of the poultry yard and garden are the rats, which are only kept in check by a number of excellent terriers. Yet we see a hundred curs and hounds in the country to one of these valuable little dogs.

It is a wonder where wood is scarce and dear as it is here, and where the China tree grows so rapidly, and makes such good fuel, that plantations are not made for that purpose, upon some of the old fields hereabouts, that are unfit for any thing else.

Mrs. Isaac Dunbar, Mrs. A's mother, and who manages the "home place," has some of the finest hedges of *Lourimundi*, that I have seen; and although they are not good fence, they are highly ornamental. The plants are easily grown from seed. She is now burning vast quantities of fuel cut from the China trees, as well as locust, in the yard. On the night of December 5th, the weather was so warm, that sleeping under a sheet only, and with doors and windows open, was uncomfortable. Let readers compare notes upon this.

The roads in the vicinity of Natchez are in just such a condition as may be imagined by those who have seen the hundreds of wagon loads of cotton constantly drawn over a loose, soft soil by four or five yoke of oxen to each, during a six-weeks' "rainy spell." And particularly when it is taken into account that labor upon roads, is almost unknown. It is one of the most common things, after toiling up a very steep hill, that you find the apex so sharp that the forward wheels of a wagon begin to descend the other side before the hind ones are up. In some countries, such ridges would be dug down. I have travelled many miles of road in different places in Mississippi, worn down into ditches from four to twenty feet deep, and barely wide enough for two wagons to pass; and these continually undergoing the gullying operation, that sometimes render travelling anything but safe or pleasant, to say nothing of the bridgeless streams before mentioned. The Scuppernong grape is grown successfully in the vicinity of Natchez.

On the road between Natchez and Woodville, there are many miles of Cherokee-rose hedge, often spreading twenty feet or more wide and as many high. It is an objection to this plant, that it is very difficult to keep it within any reasonable bounds, as a hedge. Careless planting and tending, too, often shows gaps. It is also an immense harbor for rats and rabbits, and sometimes it gets so full of dead wood, as not only to be unsightly but in danger of taking fire and destroying a line of fence in a few hours. On the other hand, if well tended, it makes a handsome hedge, being evergreen, and in spring it is covered with a profusion of single white roses, that give it a most beautiful appearance, specimens of which were frequently to be seen to-day, (December 6th,) below Natchez.

In travelling along any public road in this country, a stranger might wonder where the inhabitants were, as he may not see a house for many miles. As for instance, just at dusk on the evening I left Natchez, I opened a gate that led from the road apparently into a cotton field or a woodland pasture, and pursuing the road over a little run, up a hill, through the grove and another gate, about half or three fourths of a mile, there opens upon the view a large fine mansion, and all the appurtenances, of a rich and flourishing cotton plantation. This is the residence of Dr. Metcalf, a very estimable and enterprising gentleman, formerly from Kentucky. The Doctor, not being contented with a very good house, is now exercising his fine taste and love of building, in a very large addition to his residence, which is one of the best built houses that I have seen in the state—a plan and description of which I hope to give hereafter. Dr. M. thinks the use of cistern water far more healthy

than that of springs or wells, though he has one 50 feet deep of clear and cool, but hard water.

Bitter coco is one of the greatest pests that the planters have to contend with, several of whom, in this vicinity, having abandoned the culture of cotton on account of the spread of this grass, which defies the art of men to exterminate. Nothing but freezing will kill it. Dr. M. penned and fattened a lot of hogs upon a patch of it, and they rooted down three or four feet after the nuts, which are about the size of large beans, black color, and strung upon a small tough black root, a dozen in a string; and he fully believed that the hogs had destroyed it; but lo! in the spring it started up thicker and faster than ever. It grows a small single blade of pale green grass, never growing high, is good for pasture, particularly for sheep, but is killed by the slightest frost. The smallest fibre of roots vegetate, and unless actually consumed, fire does not seem to destroy its vitality. It has been known to grow abundantly from ashes, taken from a kitchen fire where it had been thrown to destroy it! And I have myself seen it growing out of the lime mortar in the top of a sugar-house chimney, after the chimney had been used to boil a crop of sugar; and those who know anything of the intense fires used, can easily imagine that the top of a chimney is anything but a cool place!

Doctor Metcalf and his neighbor Dr. Mercer have some of the best stock in this part of the state. Though I am sorry to say that there is not much encouragement among the mass of Mississippians, for enterprising public-spirited men like these, to expend money in introducing good stock, except for their own use. I saw in Dr. Metcalf's garden, a beautiful and efficient hedge of the Florida thorn, which I like better than the Cherokee rose, or the Osage orange, a specimen of which I have seen on Dr. Mercer's place. That plant, in this climate, grows naturally to a tree, and in a hedge-row does not afford sufficient thorns on the lower part of the stems. Being deciduous, too, it is less beautiful in winter than the *Lourimundi*, if planted for an ornamental hedge.

On the day I left Dr. Metcalf's, I crossed the Homochitto River, by a very good ferry, where was once a bridge, and in fact is now, over a part of the swamp, which is traversed by a causeway some two miles long, from four to ten feet high, which will go to show some of the difficulties of bridging streams here, and as an item of excuse for the great neglect of the people to keep the roads passable. Though the excuse is by no means sufficient. For a few miles further on, I encountered another stream, called Buffalo Creek, where a new bridge was building, which I suppose was sufficient excuse for having no ferry—the boat formerly here having been sunk months ago. From the late, almost incessant rains, the creek was sending an angry flood of muddy water fifteen or eighteen feet deep, to give its aid toward extending the lands of Louisiana across the gulf of Mexico, and presenting to several travellers on the other side, almost as insurmountable a barrier as would the gulf itself. I found at the place a small "dug out," and several negroes, to whom I gave a couple of dollars, (of course they wanted five,) to assist me in taking my carriage apart and carrying it over a piece at a

time; and baggage, harness, and self in same way, and then swimming the horses over. Streams are very numerous and bridges few, and ferries almost always exorbitant in charges and often very badly kept. I have often paid 50 cents to \$1 for toll over streams not twice as wide as some of the cotton teams are long. Tavern bills, too, are outrageously high, and the fare outrageously low; but of the hospitality of planters, and kindness with which I have been treated, without a single exception, I cannot speak high enough. Such a reception as I met with upon a late arrival, at the house of Mr Horatio Smith, near Woodville, is almost sufficient to make one forget such little items as the troublesome passage of Buffalo Creek.

Of all the numerous and curious gullies I have yet seen in this curious country, one passed to-day, (December 8th,) north of Woodville, is perhaps the most so. The road for more than half a mile traverses a mere ridge, rising out of a gulf or succession of gulfs on each side, near a hundred feet deep, in an earth of a reddish color, and much of it the tint of the peach blossom. Mr. Smith tells me that when this ridge tumbles down, as in time it surely will, that the old plantation adjoining is so full of gullies, that there will be no place for a road, without going several miles round. Mr. Smith, says, *never plow nor dig the ground in the contemplated hedge row for Cherokee-rose cuttings*. Scrape the surface clean, draw a line and mark the row, and then take a sharp pin, either wood or iron, the latter the best, and drive down six or eight inches, as thick as required for the plants, and drop the cuttings in these holes and hammer the earth around till it closes tight upon the stock. Planted in this way, not one in a hundred will fail, no matter how hard the ground—and it is not one half the labor as the mode in which they are usually planted. Mr. Smith gives as one of the reasons why pork is not made here to a greater extent, in these low-price times, the difficulty of having sufficiently cool weather at killing time, to save the meat. He has known hogs turned out again, after having been fattened, on account of the weather continuing so warm through the whole winter, that it could not be cured.

Although the town of Woodville and vicinity contain many excellent people, the place has got an unenviable notoriety; and "the oak" is known more widely as a scene of bloodshed than that portion of the inhabitants who belong to the peace establishment. If alcohol were utterly banished from the place, then would the town soon wear an improving look, more pleasing to the stranger.

SOLON ROBINSON.

Woodville, Miss., Dec. 8th, 1848.

HOW TO RENDER CLOTH, SILK, &c., WATER PROOF.—Take one pound, each, of common alum, (sulphate of alumina,) and sugar of lead, (acetate of lead,) and dissolve them in six quarts of boiling water, well mixed by stirring. When cold, the top portion of the mixture should be poured off for use, as the sediment consists of sulphates of lead, potash, &c. Any article of dress, no matter how slight the fabric, if well saturated with this liquid, and allowed to dry slowly, will bear the action of boiling water, and not permit it to pass through it.

COTTON MANUFACTURES—MARKET WAGONS.

If you could enlist the aid of some one who can give all the minutiae, relating to a cotton factory, to do so, I am very well satisfied that you would greatly please many of your southern and western readers. There is a growing interest in the cause of manufacturing, and many desire to know from no other reason than acquiring information.

Take, for instance, a mill of ten thousand spindles, and give the size of the requisite building, number and size of rooms, cost of spindles, looms, carding and dressing machines, &c., &c. The object is, of course, to work to the very best advantage—that all looms may have constant employment, and not have to wait for thread, dressing, nor warping, so that one may not gain upon the other, and that there may be enough house room, and none to waste. How many yards should be turned off per week? Average wages for weavers, spinners, reelers, &c., &c.? Amount of stock required? For how many months has the stock to be bought for? Or in other words, what amount of money is required to keep the mill in operation? What is the best power, water or steam, where wood or coal is plenty and convenient? Cost of building? Wear and tear of machinery? Net profits, &c.

This is asking a great deal of you and your friends, as it will require several articles. I sincerely believe, if done properly, such information would be greatly prized.

That beautiful cut of a two-horse market wagon, in the December number of the *Agriculturist*, fills my eye so completely, that I would give as much to see the real thing as I would to see that "divine Fanny." I have thought it over until I hatched up a scheme to get one forthwith.

M. W. PHILIPS.

Edward's Depôt, Miss. }
January, 23d, 1849. }

WE shall be pleased to receive, for the use of several friends who are making the inquiries at the south, answers to the above, condensed from reliable books, pamphlets, congressional reports, tables, statistics, &c., as any one at the north can give.

SUNDRY INQUIRIES BY A VIRGINIA FARMER.

My health compelling me to retire from public life, I have determined upon turning my attention to the cultivation and improvement of the soil. You will, therefore, confer a great favor upon me, as well as upon others of your subscribers, who have lately embarked in agricultural pursuits, by making known through the medium of your journal what information you possess concerning the following subjects to which my thoughts have been particularly directed:—

1. One subject upon which I desire information is, what is called *Jauffret's* mode of making manures, as detailed by Hon. H. L. Ellsworth, in his Patent-Office report. If it is what it is represented to be, it appears to me that I could soon enrich, at a moderate expense, a large tract of poor land, as we have a vast quantity of evergreens growing in this vicinity. (a)

2. Another point to which my inquiries have been directed is the soaking or steeping of seeds

in chemical solutions, with the view of accelerating their germination. It is stated that the application of these solutions, to grain and Indian corn are particularly serviceable in protecting the field from birds, insects, &c., as well as in augmenting the productiveness of the crop. Any one, or all such solutions as can safely, beneficially, and economically be employed, it is highly desirable should be made known, and those pointed out, which have proved either unserviceable or injurious in their effects. (b)

3. What do you think of applying liquid manure to young crops of wheat, oats, &c.? (c)

4. I see it recommended to cover wheat in the autumn or winter and oats in the spring, with straw, pine leaves, &c. Will this pay for the labor or expense? (d)

5. It is also asserted that corn stalks form the best manure for Indian corn, which, I presume, is based upon similar principles as the trimmings of the vine are the best fertilizer for vineyards. Is this assertion true, or is it mere theory? (e)

6. How would it answer to graft the peach upon a mountain-plum stock which is a hardy tree and about the size of that of the peach? (f)

Will it do to graft the choice varieties of the European grape upon our common native grape-stocks, which are so hardy and grow so vigorously in most parts of this county? (g)

E. R.

Drummond Town, Accomack Co., Va., }
January 4th, 1849. }

(a) The manure, made after the methods of Messrs. Baer and Gouliet, Bommer, and Jauffret, undoubtedly, possess excellent qualities, and where the requisite materials of which it is composed can economically be procured, we think it may be manufactured with some advantage; yet, it still remains to be proved, whether guano, bonedust, or a compost made in the barnyard with swamp or pond muck, straw, leaves, charcoal, plaster, &c. cannot be more profitably applied.

(b) It is a mistaken idea, that, by soaking or steeping seeds in certain solutions, the vigor and fecundity of the future plants will be promoted. For, all that is necessary to produce germination is, to bring the seeds in contact with a due proportion of water, oxygen gas, and a requisite degree of warmth.

No liquid, but water at common temperatures, will pass through the integuments, or outer covering, of a seed before the process of germination has commenced; and then this power to exclude other liquids ceases altogether; but the first organs of the plant, (the radicle and plumule,) starting into activity are so delicate, that the weakest mineral solutions are too acrid and offensive for them, with the exception of those which promote the decomposition of water, and consequently a more abundant evolution of oxygen gas. So utterly incapable are the infant roots of imbibing such solutions, that, at first, they are absolutely dependent for their existence upon the seed leaves, and if these are removed, or destroyed, the plant makes no further advance or perishes outright. Therefore, let it be a warning to those who employ steepings of this kind, with the hope of promoting the vigor of future plants, that they must keep the seeds in the solu-

tion but a very few hours; for, in two days, if the temperature be 60° F., or more, putrefaction commences, and germination is weakened or entirely destroyed.

M. Vogel, of Munich, has published an account of an extended course of experiments on this subject; and they fully confirm the opinion that *salts, innocuous when the plant is of a robust and advanced growth, are fatal to it at the time of germination.*

When healthy seeds are moistened with water and exposed in a suitable temperature to atmospheric air, they absorb the oxygen only; and hence they will frequently germinate if soaked in an aqueous solution of chlorine—a gas that has the power of attracting hydrogen from water, and others of its compounds, and thereby releasing the oxygen, which is then absorbed by the seeds, and their germinating process increased. This fact has been proved by Baron Humboldt and others, as in the case of cress seeds, (pepper grass,) which, under ordinary circumstances, require several days to complete the process, but on the application of oxygenated muriatic acid gas, they were found to germinate in the period of three to six hours!

The most eligible mode, perhaps, of applying the chlorine is, to mix a table-spoonful of muriatic acid with about the same quantity of black oxide of manganese and half a pint of water. After allowing the mixture to remain two or three hours, the seed is to be immersed in the liquid for two or three hours more, and then sown.

Another very safe and economical steep for garden and other seeds, consists of a solution of one fourth of an ounce of chloride of lime to one gallon of water, in which the seeds should be allowed to soak for four hours, and then be sown the ordinary way.

Manuring seeds by steeping them in a solution of guano and water, and rolling them in mixtures of blood and lime, &c., has within a few years been practised with some success; at all events, it is thought to destroy rust and prevent the depredation of insects and birds.

(c) Liquid manures, diluted to the proper degree of strength, may be applied beneficially to all kinds of crops, particularly to the squash and cucumber tribes; it is very doubtful, however, at the present prices of land and labor in the United States, whether they can be economically employed in manuring wheat, Indian corn, and other field crops, from the cost of their preparation, application, &c.

(d) The operation of covering wheat and other young plants with straw, pine leaves, or other fibrous matter is known at present under the name of "Gurneyism," the benefits and description of which may be found at p. 203, of our fifth volume. Thus far, this system has not been much adopted in this country, being generally regarded as a visionary theory.

(e) It is now generally conceded, that the roots, stalks, straw, leaves, seeds, &c., of plants, or the ashes of the same, (those of Indian corn of course included,) when restored to the soil in which they have been grown, will tend most essentially to the production of the same or other similar crops.

(f) As a general rule, all trees, shrubs, and plants may be grafted on nearly kindred stocks;

that is, those belonging to the same natural family, having sap vessels similar and of appropriate calibre, their proper sap and juices similar, and flowing at the same periods of the year. Thus, some species may be grafted, not only on every other species of the same genus, but on every other species belonging to the same natural family; as, for instance, the common hawthorn may be united with any of its congeners, as well as with the quince, the pear, the plum, and the mountain ash. Again, other species, that will not unite by grafting to all the species of their own genus, such as the common pear, which will not readily graft on the apple, will yet unite with the quince, the medlar, the thorn, and the mountain ash. The scions of some pears, however, can hardly be made to unite with a quince stock; but if they be grafted upon a young pear shoot, and afterwards inserted in quince stocks, they grow as freely as when inserted in the stocks of pears. The European larch will unite with the Scottish fir, and the Norway spruce with the Himalayan spruce fir, but oaks, in general, must be grafted on stocks of their own or nearly allied species. Another exception to the above-named rule is, that plants having milky sap will not unite with such as have watery sap; and, indeed, will not unite with other plants at all. Hence the Norway maple cannot be grafted on any other species of the genus.

As the peach succeeds more readily by *budding* than by grafts, and is strengthened by being worked on more robust stocks, we think the suggestion made by our correspondent a good one, and recommend that the experiment be tried of budding that fruit upon small thrifty stocks of the mountain plum.

(g) In the northern parts of the United States, the European vine has been grafted on Isabella stocks, and grew most luxuriantly until the leaves were killed by frost; but the wood of the young shoots did not sufficiently mature to withstand our winter's cold. At present, we know of no reason why the experiment would not succeed in sheltered situations in the middle states, as well as in localities further south.

FACTS IN FARMING, No. 3.

Feeding Milch Cows in Winter.—On the 25th of December, 1847, I commenced an experiment with eight cows, dividing them into two lots, four in each, and weighed the milk of each lot for six days. Lot No. 1. averaged 18 lbs. of milk to each cow per day, and Lot No. 2. 17 lbs. each.

On the 31st of December, of the same year, I commenced feeding Lot No. 1. with four quarts of dry Indian meal to each cow per day, for six days, which resulted in no change as to the quantity of milk. I then increased their feed to eight quarts of Indian meal per day, for six days more, at the end of which, the average yield of each cow was only 16 lbs. of milk. Lot No. 2. were fed at the same time as Lot No. 1. with the same quantities of scalded Indian meal, made into a slop, which ended in the same result.

Feeling convinced that Indian corn would not pay for the production of milk, I commenced feeding Lot No. 1. with half a bushel of ruta-bagas per day to each cow. In two days, the four cows in-

creased their milk 10 lbs.; in three days 16 lbs., [20 lbs. each ?] which latter quantity they maintained during the next twelve days following. Lot No. 2. were fed, during this time, with half a bushel of sugar beets per day to each cow, which terminated with the same result as Lot No. 1.

I then gave each cow of Lot No. 1. four quarts of ground buckwheat per day, made into a slop, which resulted in the same manner as when fed with the ruta-bagas. In the mean time, the cows of Lot No. 2. were fed with eight quarts of wheat bran per day, but without change as to the produce of their milk.

During the time the above-described experiments were performing, the cows had as much good hay as they would eat, with free access to water during the day, and were put up in a warm stable at night.

Corn Stalks for Winter Fodder.—On the 15th of June, I planted an acre of Indian corn in drills, 18 inches apart. On the 1st of September following, I cut it up with a reaping hook, let it cure for three days in the swath, then bound it in small sheaves and shocked, or stooked it up, putting a band round the tops of the shocks, leaving the bottoms spread out for the admission of air, to prevent moldiness, and about a month after, collected them into stacks near the barn. The produce of this acre kept thirty cows, for twenty days, from the 1st to the 20th of January.

Value of Root Crops.—For the last three years, I have turned my attention to raising parsnips, ruta-bagas, and the sugar beet as a field crop. The parsnip should be planted as early in April as the ground will admit. It has no enemy that will seriously injure it, yields well, (500 bushels per acre,) and for wintering hogs, is worth twice as much as the ruta-baga or sugar beet.

The ruta-baga, with me, has become an uncertain crop on account of the depredation of the turnip flea. The sugar beet is a productive root and will pay well for persons engaged in the production of winter milk; but under other circumstances, I doubt the economy of entering largely into its cultivation. If fattening cattle or hogs be the object, Indian corn will afford more feed from a given quantity of ground, provided it is as richly manured. D.

Orange County, N. Y., January 10th, 1849.

REMARKS ON TOP-DRESSING.

THE waste caused by the washings by rains and melting snows, in my opinion, is the only objection to putting manure on the surface of the soil. In all other respects, I think it decidedly preferable to top-dress, particularly grass lands. If this cannot be done in the winter, I prefer to haul the manure on in the summer and spread it as soon after the hay is off the ground as possible. At that season, the rains are not so heavy as to cause much surface water; but at each shower, the soluble parts of the manure dissolve, wash down, and act immediately on the roots of the plants, causing them to continue their growth, until checked by frost. Should there be an excess of this liquid manure, it will descend lower into the earth, at every succeeding shower, and when once deposited there, will never ascend. [We cannot concur in this opinion. Manures may

be wasted by evaporating in the air, as well as by descending too deep into the earth.—Eds.] On very porous soils, however, it is often lost below. I have known gravelly land, where rotten manure has been plowed in before the commencement of the fall rains, and much of its strength washed out of the reach of the roots of most kinds of grain, that could not be brought up again without very deep plowing, or by planting, or sowing such kinds of vegetables as possess deep-searching roots.

I strongly advocate top-dressing for winter grain, when the snow or frost will admit of putting it on. If the ground is sufficiently hard to bear horses and their loads, no harm will be done, either to the land or team, in the absence of snow. I have seen this experiment tried, in many instances, with great success on stiff clay soils.

I have tried top-dressing on clay meadows, in one instance, by applying several loads of manure to the acre, and in another case double this quantity, and in a third instance treble the amount. The former was exhausted the first year—the next produced a good crop the second year, but was exhausted at the end of the season—but in the latter case, the crops were equally good for five years! This experiment convinced me *practically* that there was no loss by evaporation, and encouraged me to hold the position I now advance.

W. H. SOTHAM.

Black Rock, N. Y., Jan. 10th, 1849.

QUERIES ANSWERED RELATIVE TO WIRE FENCES.

SINCE the publication of Mr. Peters' article on wire fences in our January number, numerous inquiries have been made relative to the size, weight, and cost of wire, where it may be had, &c., &c. For the benefit of those who are interested in this subject, we have taken special pains to construct the following table, which is based on reliable facts, obtained from several importers and wire dealers of this city.

Class of wire.	Diameter in hundredths of an inch.	Weight per lineal rod.	Weight per lineal mile.	Retail prices per pound.
No. 1	0.32	4 lbs. 2 oz.	1321 lbs.	\$0.09 cts.
2	0.30	3 " 10 "	1166 "	0.09 "
3	0.27	2 " 15 "	944 "	0.09 "
4	0.25	2 " 8 "	809 "	0.09 "
5	0.24	2 " 5 "	746 "	0.09 "
6	0.22	1 " 15 "	627 "	0.09 "
7	0.20	1 " 9 "	518 "	0.10 "
8	0.18	1 " 4 "	419 "	0.10 "
9	0.16	1 " 0 "	331 "	0.10 "
10	0.15	0 " 14 "	291 "	0.11 "
11	0.13	0 " 10 "	219 "	0.11 "
12	0.12	0 " 9 "	186 "	0.11½ "
13	0.10	0 " 6 "	129 "	0.13½ "

If wanted in large quantities, 25 per cent. would be deducted from the prices above. There is a great difference in the quality of wire and those unaccustomed to its use are liable to have an inferior article imposed upon them. It is better that the wire be galvanized or annealed, as the fences will endure for 15 to 20 years without injury from the weather. For galvanizing the wire or coating it with tin, the cost will be only 2½ cents per pound in addition to the usual prices. See advertisement at p. 104 of the present number.

Ladies' Department.

POTATO STARCH.

It may not so generally be known as it should be, that starch made from the common potato furnishes an excellent substitute for arrow root, as a wholesome, nutritious food for children. It also makes an equally good, cheap pudding for their fathers and mothers. For, as it does not possess the medicinal properties of arrow root, it is much to be preferred as an article of daily food, except for children who are subject to diarrhoea, or summer complaint.

The process of making this kind of starch is so exceedingly simple, and the time required is so short, as to put it in the power of every one having the means at hand. All you have to do is, to grate any given quantity of well-washed potatoes into a tub of clean cold water; let it settle for a few minutes, and then pour off the foul water from the top; put the residue into a coarse hair sieve; plunge it into another tub of clean cold water and wash the starch through the meshes of the sieve, leaving the grated potato in the sieve, to be thrown away. Let the water settle again; pour it off, and wash the starch a third time. This last water will come off pure, which should be poured off; take out the starch after scraping off any remains of potato gratings that may be on the top; put it on dishes to dry, and it will immediately be fit for use.

When wanted for use, the starch need only be mixed with a very small quantity of cold water, and then stirred into boiling water, or milk, without boiling. The article makes a stiff and beautiful starch for clearing thin muslins, and is much less troublesome than that made of wheat. E. S.

FATTENING POULTRY.

I READ with much pleasure your very sensible remarks on the cheap method of fattening poultry, published in the January number, and take the liberty of saying that I concur fully in the opinions therein expressed, having more than once had occasion to notice the inferiority of the flesh of animals, as well as that of poultry, treated of by your Boston correspondent. Those allowed the liberty to feed in the manner more agreeable to their natures and habits, as you rightly judge, possess great superiority in the texture and flavor of game.

Fowls do not require a superabundance of food to make them fit for the table of an epicure; and poultry, as well as other animals, closely shut up, and *crammed* with nutritious food, may, and will become very fat, but they are in a feverish state while so confined, and their flesh is neither well flavored nor healthful. Beside this, unless kept perfectly clean, which, in boxes, is very difficult, they are apt to acquire a most hateful *smell* as well as taste. If, on the contrary, they are suffered to run at large, and are regularly fed, they will not wander far from the homestead, and will easily fatten, and what is of much more consequence, (for, who does not turn with loathing from the idea of *eating the fat* of any kind of poultry?) they grow in size, and afford firm, white, juicy flesh, the most wholesome, perhaps, of any description of meat that can be set before us.

As to the cheapness of the method recommended,

the increase to the northern farmer's profits would, I fear, be more than doubtful, if he bought the rice, at the average price of five cents a pound, and had it boiled for his fattening poultry. I "guess" they would eat before the sixteen days had passed, more than their carcasses would sell for in the market, be they in ever so fine a condition.

Under the head of cruelty to animals, I would notice, and bear my testimony against "confining the feet to the floor of the box"—even though the method employed be less cruel than that so common among English poulterers of nailing the feet to the board on which they stand. Ducks and geese, they place in rows of six to eight, with the feet thus fastened, and then secure another narrower board over their backs, thus effectually preventing change of place or position. Their neighbors, the French, have a method, (which I forbear to describe, for long may it be before any such are practiced on this side of the Atlantic,) of feeding turkeys and geese which causes the liver to increase to an enormous size, for which they obtain high prices from the pastry cooks, who make of them the much celebrated luxury *pâté foie gras*. An unsophisticated stomach revolts at the bare mention of eating a *diseased* animal, or any part of it; and no animal can be in a healthy state when one organ is enlarged beyond the limits fixed by nature. But setting this consideration aside, could any friend of humanity wish to add to the luxury and so-called refinements of his table, at the expense of the tortures the unfortunate animals thus treated must suffer?

For turkeys, barn-door fowls, and ducks, I know of no food upon which they grow larger, and fatten better, than *bonnyclabber*, (curdled, sour milk,) thickened with wheat bran. They eat it voraciously, and do not soon tire, as they are apt to do on some other kinds of food. E. S.

Eutawah, February 1st, 1849.

THE PROPER SOIL FOR ROSES.

ALL roses like a rich soil, which should be made *light* for the delicate rooting varieties, and more *tenacious* for the robust, hardy kinds.

In order to form a light soil, procure one bushel of seasoned turfy loam, half a bushel of well-decomposed stable manure, half a bushel of leaf mold and white sand, proportioned according to the texture of the loam, which will in no case require more than one fourth of its own bulk. The heavy soil may be composed of one bushel of stiff turfy loam, one bushel of nightsoil that has been mixed with the loam and laid by for a year, half a bushel of leaf mold or well pulverized manure and sand, as recommended above.

A little burnt earth added to either of the composts will improve them. These above-named materials should be thrown together, and frequently turned, for at least three months before they are used.

HOW TO CLEAN POTS AND BOILERS.—As soon as soups, boiled milk, gravies, &c. are taken out of your boilers, pour into them some hot water, which, even if you cannot then stop to clean them, will save a vast deal of the time and trouble that must be spent if they are left to become cold, with the gravy, or whatever else, hardened on them.

DEFENCE OF ROMPS.—Never find fault with girls, young girls in particular, if they are decided romps; but be thankful that they have the health and spirits necessary for romping. Better a romp than have a narrow chest, or a hectic flush on the cheek. Better wild as a hawk than tame as a dove. Better pay the butcher and the shoemaker than the physician and the undertaker. —*Chicago Journal.*

BUG POISON.—An ounce of quicksilver, beat up with the white of two eggs, and applied to the bedstead, with a feather, it is believed is the cleanest, safest, and surest bug remedy known.

HOW TO REMOVE WHITE SPOTS IN FURNITURE.—A warming pan or shovel of coals held over varnished furniture, it is stated, will take out white spots. The spots should be rubbed with flannel while the furniture is warm.

HOW TO REMOVE INK SPOTS FROM LINEN.—Take a piece of tallow, melt it, and dip the spotted part of the linen therein. It may then be washed, and the spots will disappear, without injuring the linen.

HOW TO RESTORE COLORS TO CLOTH.—An ox gall, it is said, will set any color, in silk, cotton, or wool.

Boys' Department.

AGRICULTURAL CHEMISTRY.—NO. 11.

I WILL now endeavor to acquaint you with the structure of plants, or their organization, and describe to you the manner in which the various organs perform their respective offices.

In describing the various parts belonging to plants, it is essential, in order to obtain an easy and perfect comprehension of the subject, to have the attention directed to some particular member of the great vegetable family, and after becoming well acquainted with that, you can easily apply the description or character to any other, as there is a remarkable correspondence between them all. In the largest plants, we may expect to find the different organs most distinctly developed. I will, therefore, select a *forest tree* as the most fit embodiment of those organs common to nearly all vegetables. In examining a tree, three parts at once present themselves for investigation, namely, the root, the trunk, and the leaf.

1. *The Root.*—The office of this is to give the tree a firm support in the soil, to extract nutriment for its supply, and to return to the earth such matter as has been separated from the nutritive part of the food. Roots absorb liquids by means of the fine, spongy texture of their extremities which act as mouths and imbibe the moisture that surrounds them. I say they absorb *liquids*, for we have no proof that solid matter, although reduced to the finest powder, can gain admittance, nor that gases can enter except when combined with liquids. But all liquids are not admitted, for the root seems to possess a discriminating power, which enables it to

reject such aliment as would be injurious or devoid of nourishment; just as animals, by their sense of taste and smell, are the roots enabled to distinguish wholesome and unwholesome food. There are, I admit, exceptions to this statement, for roots will imbibe brine and many other liquid substances not congenial to the nature of plants, just as an animal may be made to swallow arsenic by mixing it with its food; but this no more proves that the root has no discriminating power, (as some contend,) than the fact that animals may be made to eat poison proves them to be without taste or smell. As brine and other poisonous solutions which roots have been made to absorb, are not common to the soil where they grow, it was not necessary that Nature should endow them with the power of rejecting such substances; for she is a good economist, and does not furnish either plants or animals with such faculties as are not of general use. We cannot in the present state of science define the nature of this selecting power which roots possess, but numerous experiments have proved its existence.

I mentioned that the root possesses another power—that of returning to the soil such matter as is not required by the plant. This is called the *excretory power*. Some writers on this subject deny its existence, while others not only contend that roots have this power, but also assert that the matter which they return to the soil is detrimental to the succeeding crop, providing it be of the same kind, though not injurious to any other kind of plant. This theory was evidently formed to explain the reason why the same kind of produce does not thrive when repeated for a succession of years, or in other words, to account for the advantages of rotation. But while we admit that the roots of plants have an excretory power, I do not think we have any good reason for believing that the matter excreted has any influence on the succeeding crop. I will explain the advantages of rotation in a subsequent letter, and, I trust, on more philosophical principles than any contained in the above hypothesis.

2. *The Trunk, or Stem.*—We will now direct our attention to the stem or trunk. The several parts belonging to this, with which you are familiar, are the *bark*, the *wood*, and the *pith*. The bark, or outer covering, may be easily separated into two portions—the outer called the *epidermis*, the inner, lying next to the wood, the *liber*. The sap, or juice, in its descent, flows through the liber, as will be presently described. The woody part of the trunk is usually found to consist of two portions differing in appearance; the inner portion is called the *heart*, and is commonly of a brownish color; the outer, enclosing this, is called the sap wood, or *alburnum*. The pith is of a spongy texture, sometimes occupying a considerable space in the centre, as in the elder, but more frequently small, as in the oak, maple, &c.

You may have observed in the ends of logs sawed transversely, small white lines, running from the centre to the circumference, or from the pith to the bark, like spokes in a wheel. These are called *medullary rays*. They are composed of a similar substance as the pith, and seem to form a medium of communication between the pith and bark, though for what purpose is not known. Although

these medullary rays appear like mere lines running across the end, they in reality extend through the whole length of the trunk, dividing both heart and sap wood into distinct sections.

The parts, or divisions, of the trunk, above described, are such as are apparent without minute observation; but a closer inspection discloses small cells, or tubes, extending lengthwise through the trunk, and arranged in groups, or bundles. Through these channels the sap flows, passing in its ascent through the tubes of the alburnum, and in its descent through those of the liber and bark. In that portion of the trunk called the heart, the cells have become mostly filled and closed with solid matter; so that but little juice can flow through them. The heart, therefore, is the more firm and solid portion, and on that account the more valuable for mechanical purposes where strength and durability are required. In all ex-tropical trees, the palm family excepted, a new layer of wood is formed every year next to the bark, which forms a ring around the trunk, easily recognized in most trees when cut or sawed across; their age may be readily ascertained by counting these rings, or layers.

3. *The Leaves.*—These are very important organs, as they prepare the juice for the office it performs in forming new wood, and thus promoting the growth of the tree. Their office in this respect may be compared to that of the lungs of animals, for the lungs in like manner prepare the blood for its destined purpose.

The leaf is connected both with the wood and the bark of the twig to which it is attached; its fibres communicating with the woody part of its stem, while the green part of the leaf may be considered as an expansion of the bark. The tubes, or cells, which I have described as extending through the alburnum and liber, pass into the leaf and diffuse themselves through its substance. Now there are two sets or layers of these vessels, the one spread along the upper, the other along the under surface of the leaf. Those along the upper surface come from, and connect with, the wood or alburnum, and those along the lower surface connect in like manner with the vessels belonging to the bark or liber. The vessels, running through the leaf communicate with the air by means of innumerable pores which permit the escape of vapor, or admit the entrance of carbonic acid, as the case may require. It is supposed, (I know not on what authority,) that the office of the pores on the upper surface is to allow vapor to escape, while the absorption of carbonic acid, (and perhaps other gases,) is performed by the pores of the lower surface.

The Course of the Sap.—The juice, when first absorbed by the roots, is unfit for the purpose of nutrition. Its upward passage, as I have before said, is through the tubes of the sap wood, and these tubes are connected with those passing into the leaf. The sap in its ascent is slightly changed, though not materially, until it reaches the leaf, when it is exposed to the action of light and air, and reduced in quantity by the evaporation of a part of the water it contained. It is made thicker and somewhat mucilaginous or gummy, by parting with a portion of its water. Its chemical character is also changed by the action of the atmosphere

as well as by that of light; carbonic acid is drawn from the air, and it returns through the liber, carrying with it a large portion of this gas. Now, in what manner the carbon is separated, or how it is that those chemical changes are performed by which the materials contained in the juice are converted into wood, fruit, or seed, I cannot inform you. Some may satisfy themselves by saying these changes are produced by a *living principle* in vegetables, but this explanation is far from being satisfactory, and leaves us in doubt and darkness as to the nature of this *principle*, and the manner in which it acts. But what causes the motion of the juice? Why does it rise contrary to the force of gravity? This question concerning the motion of juices in vegetables, like that of the circulation of blood in animals, has given rise to much speculation, and to many theories. One method of explaining the ascent of sap is, by supposing it to be the result of capillary attraction; another, and the one adopted by Liebig, (See American Agriculturist, vol. vii, p. 276,) is that the evaporation from the surface of the leaves produces a vacuum, (an empty space,) in the upper part of the tubes, which causes the fluid to rush in from below on a principle similar to the one by which water is forced upward in a pump; others again have resorted to the *vital principle*, (a term hard to define,) but there are weighty objections to all these theories. The one adopted by Johnston appears more satisfactory, although it must be admitted that this rather *illustrates* than *explains* the fact—just as the falling of an apple illustrates without explaining the force of gravity. It is as follows:—

Take a metallic tube open at both ends; over one end tie a piece of bladder, and into the other pour some water saturated with sugar, and immerse the lower end, (that over which the bladder is tied,) in some pure water. The water will penetrate the bladder, rise in the tube, and run out at the top, and continue running out until the water within, and that without the tube contain nearly the same proportions of sugar. Now sugar is a common ingredient in the juices of plants, and the above experiment may be made with several other substances which are found in vegetable juices. Is it not, then, highly probable that those liquids which the roots of plants imbibe are drawn up through their small tubes on this principle? Neither capillary attraction, nor the production of a vacuum by evaporation, nor the indescribable vital-principle hypothesis will account for the ascent of the water in the tube in the above experiment. Yet, while we admit that the chemical force by which the water is made to ascend in the tube is the principal one in causing the ascent of the sap in trees, I do not know that there is anything unreasonable in supposing that it may be aided in plants by capillary attraction, and also by evaporation from the leaves. This indeed seems quite probable when we consider that water can only be made to rise a few feet in our metallic tube, while in trees it is sometimes drawn upward of a hundred feet or more.

In my next letter, I will describe some of the most important of the compounds belonging to vegetables.

J. MC KINSTRY.

Greenport, Columbia Co., N. Y. Feb. 1st, 1849.

FOREIGN AGRICULTURAL NEWS.

By the Steamer Niagara we are in receipt of our foreign journals to the 27th of January.

MARKETS.—*Ashes*, a slight decline. *Cotton*, an advance of $\frac{1}{4}$ d. per lb. On most other kinds of American produce, either a trifling advance or an increased briskness of sale.

Money continues very abundant at $2\frac{1}{2}$ and 3 per cent.

American Stocks. An increased demand at a moderate advance in prices.

Business generally has greatly revived in England and France; and if no more political outbreaks occur, we may look for a greatly improved state of things during the present year.

Important Fact in the Use of Liquid Manure.—Liquid manure is wasted if it is given to plants not in full growth, or just beginning their growth. This is true in all cases. If applied at other periods, it will have some effect, but not so much.—*Gard. Chron.*

How to Restore Ropy Cider or Beer.—Put half a pound of mustard seed into 60 gallons of ropy cider or beer, bung it closely up, and it will be fit for use in one or two weeks.—*Ibid.*

Demand for Horses in England.—It is stated that the government of France has a number of agents in England for purchasing horses suitable for their troops. The steamboats from London bridge and Falkstone, are said to be daily conveying fine horses, also, to Boulogne, for the supply of the Neapolitan government.

New Variety of Wheat.—Advices from St. Petersburg mention that a new variety of wheat has recently been discovered and cultivated in Bessarabia. It is called *Kolus*, or large-eared wheat, on account of the peculiar beauty of its ears.

Clipping Horses.—Observing a paragraph relative to clipping horses, I beg to state that I have lately been informed that the process injures the constitution of the horse in the long run, causing the animal to wear out sooner, notwithstanding every care may have been taken with him at the time of the operation and subsequently; although it is conceded that at the time of clipping, the horse is thereby enabled to perform his work more easily, and also thrives better.—*Agricultural Gazette.*

Effects of Living on Potatoes.—A person living entirely on potatoes may be said to be on the brink of a precipice, without a single inch of ground before him, when the only safety lies in retreat. The disadvantages may be shown in three different ways. 1. It leads to imperfect bodily strength and unsoundness of health. 2. To increased mortality and shortness of life. 3. To loss of energy, and to a kind of stupidity, and want of interest in everything but what concerns the merest animal interests. A country in this state is always ripe for rebellion, and ready to join in every insurrection.—*Philosophical Magazine.*

Extensive Cultivation of Potatoes in Ireland.—The Ballyshannon Herald, gives the following in the agricultural report for the county of Donegal:—Wheat and potatoes are putting down in this neighborhood. If seed can be got moderate, there will be a vast quantity of potatoes planted this year, the demand for conacre land being very extensive. There will also be large sowings of turnips and parsnips, as it is now fully proved that an acre of turnips or parsnips pays better than an acre of corn or wheat; but the native esculent, (the potato,) is still the general favorite. Throughout this country the potato produced nearly an average crop last year, and the rot was not extensive—those housed are keeping well. About Donegal, Stranorlar, Letterkenny, Dunfanaghy, and Raphoe, the spring work is in a forward state. A vast quantity of wheat is down, and some potatoes also.

Grafting Grasses.—Signor Calderini, of Milan, having observed that grasses have at each knot a shoot enclosed in the sheath of the leaf, which can easily be drawn out when the plant is young, introduced some of these into plants of the same species, having previously removed their young shoots, and more than one half of them succeeded. He then extended his operations to grasses of different species, and succeeded in grafting panic on millet. The only difference observable in the grafted individuals was, that they ripened their seeds somewhat later.—*Annales des Sciences Naturelles.*

Salt as a Garden Manure.—I can strongly recommend a dressing of this manure (except on very stiff land.) To grow asparagus and seakale in perfection, it is essential, and I find a general improvement effected by its use in the bulk and quality of our culinary crops. It also destroys snails and other insects. For general crops, about $\frac{1}{4}$ lb. to the square yard will be sufficient; this should be sprinkled evenly over the ground when it is bare, and if dry, forked in immediately. To the crops of seakale and asparagus twice this quantity may be given; it should be spread over the beds in winter, or early spring, and either forked in at once or left to be dissolved by the rain.—*Agricultural Gazette.*

Small Pox in Sheep.—At a time when a disease resembling small pox is prevalent in sheep, the following extract from an unpublished translation of Linnaeus's "Tour in West Gothland," may have some interest:—"Some time ago the sheep had had an eruption upon the body, which the people called small pox; but a person who had given his sheep Cardebenedict, (*Cnicus benedictus*), in the winter, had completely preserved them from such a distemper, although they had been fed in the same pasture with others which were diseased."—*Linnaei Wasgotaresa*, p. 145, published in 1747, in Swedish. It does not appear clearly from the context where this took place, but probably in the Island of St. Helena, of which he had been speaking in the preceding sentence.

Caper Plant at Malta.—I observed the caper bush growing in great abundance out of the crevices in the walls and ramparts on the island of Malta, where I spent two days in the end of June last. It was in full bloom at that time, and was really a handsome object; the long white stamens tinged with purple contrasted finely with the clear green foliage. Some friends who were wandering about over the island with me, sight-seeing, fell into the common error regarding the capers of commerce, and stoutly argued that it was the seed of the plant which we eat at our tables; nor could I convince them to the contrary until I procured a branch with some unexpanded flower buds upon it, and showed that these parts were what were gathered for use. It is a curious fact that caper eaters generally suppose they are eating seeds instead of flowers, and it is sometimes hard to argue them out of that belief.

I may mention, in passing, for the amusement of your readers, a good pun that was made unintentionally, I believe, by a former governor of this island. Some of the people had been in the habit of gathering and using the caper buds, much to the annoyance of the government, and it determined to put a stop to the practice. An order was therefore issued, which stated that "no one was allowed to cut capers on the walls of Malta."—*Notes of a Traveller.*

Agricultural Education in the Island of Cuba.—Three of the principal schools of Havana have instituted a new department in which instructions are given in Chemistry as applied to Agriculture, and the science of *Agromonia*, or cultivation of the various kinds of field crops.—*La Crónica.*

Editor's Table.

STATE AGRICULTURAL SCHOOL.—We notice with great pleasure, that a committee, appointed by the New-York State Agricultural Society, has addressed a memorial to the Legislature, strongly urging the establishment of an agricultural school, on the most enlarged and liberal basis. If our farmers feel a sufficient interest in this matter, they can carry it through. And if they feel no more than they have ever done since Adam's expatriation, they can as easily secure *nothing*. We shall soon see how much zeal and intelligence they will show in this subject.

TRANSACTIONS OF THE AGRICULTURAL SOCIETIES OF MASSACHUSETTS, FOR THE YEAR 1847, collated from the original returns, by the Secretary of the Commonwealth, have been received, a further notice of which will be given in a future number.

AGRICULTURAL SURVEY OF WASHINGTON COUNTY, N. Y.—Dr. Asa Fitch, of Salem, Washington county, has finished his survey of that county, for which the sum of \$200 was appropriated; and it will be received in time to be published in the State Transactions.

LARGE COW.—The Utica Gazette says that Benjamin Canoon recently sold a cow to a butcher, of that city, which weighed 2,050 lbs. Her value, at 5 cents per pound, was \$102.50.

ARTESIAN WELL.—The Charleston, S. C., Mercury contains the following announcement of the progress of an Artesian well in that city:—We are glad to learn that this important work is progressing most satisfactorily, and that every day's indications give stronger and stronger assurances that the anticipations of its projectors will be fully realized. The auger has now penetrated to the depth of four hundred and twenty-eight feet, and the water in the tube has risen to within one foot of the surface.

LUSUS NATURÆ.—Mr. P. Baker, of Greene county, Ohio, raised a spire of yellow corn last season, nine feet and three inches high, with two tops, dividing at the height of three feet above the ground. At the point where the stalk divided, there put out and grew two perfect ears of corn, which arrived at perfection and have been saved for seed.

ADDRESS OF L. F. ALLEN, LATE PRESIDENT OF THE N. Y. STATE AGRICULTURAL SOCIETY.—We have been more than gratified by the perusal of the above-named address, kindly forwarded us by B. P. Johnson, Esq. Its merits were implied from the fact, that this is the first address in the history of the society, whose publication has been called for by the Legislature of our state, of which, they ordered twenty times the usual number of copies printed for their own use, and 500 copies for the society. There are no decidedly new points started in this address, but strong reasons and cogent illustrations, albeit somewhat bluntly stated, are given why our farming interests should command more of the respect and attention of our community.

RE-PRINT OF FOREIGN REVIEWS.—Messrs. Leonard Scott & Co., 79 Fulton street, New York, publish the following periodicals, viz.:—The London Quarterly Review, The Edinburgh Review, The Westminster Review, The North-British Review, and Blackwood's Edinburgh Magazine. All the above periodicals are reprinted in New York, immediately on their arrival by the British steamers, in a beautiful clear type, on fine white paper, and are faithful copies of the originals. Blackwood's Magazine being an exact *fac-simile* of the Edinburgh edition. The prices of the re-prints are less than one third of those of the foreign copies, and while they are equally well got up, they afford all that advantage to the American over the English reader.

A tale by Bulwer is now in course of publication,

in Blackwood, which adds considerably to the interest of the work. The North-British Review is in the third year of its existence. Its articles are religious as well as literary, and are of uncommon vigor and ability. It is the organ of the Free Church party of Scotland.

SHEEP HUSBANDRY IN THE SOUTH; Comprising a Treatise on the Acclimation of Sheep in the Southern States, and an Account of the Different Breeds. Also a Complete Manual of Breeding, Summer and Winter Management, and of the Treatment of Diseases, with Portraits and Illustrations; in a Series of Letters from Henry S. Randall, Esq., of Cortland Village, New York, to R. F. W. Allstone, Esq., of South Carolina. Philadelphia, J. S. Skinner & Son, pp. 320 octavo.

These letters originally appeared in the "Farmer's Library," edited in this city by the elder Mr. Skinner, now of the "Plow, Loom, and Anvil," in Philadelphia; and by his publishing firm, are now gathered up and put into the handsome volume before us, exclusively on his own account. To the author these letters were entirely a labor of love; written with the patriotic motive of aiding the southern planter and farmer, in extending and improving in the highly important occupation of sheep husbandry among them. We need not say how deeply we are interested in this subject, for we have only to appeal to the early volumes of the Agriculturist, to convince our readers of that. We know of no country on earth equal to the hilly and mountainous region of the south for growing fine wool; and we hope to live to see the day when this lovely and fertile region will be dotted with flocks attended by shepherds and their dogs, as numerous as we now find them in Great Britain. The product of wool would then be fully equal to that of cotton, and manufacturers would rapidly follow, giving such wealth and strength to the south as its statesmen of the present day do not dream of.

Messrs. Skinner & Son have brought out this work of Mr. Randall's in a style very agreeable to look at. In order to give our readers an idea of the value of its contents, we shall hereafter make some extracts from it. In the meanwhile, we advise all interested in the improvement of the agriculture of the country, and especially of that at the south, to possess themselves of a copy. In one thing it is unique—it abounds with statistics, which to obtain, one would be obliged to turn over a large library. In this department, the author has been indefatigable, and shows great industry and research.

MUSIC OF THE ASS.—The ass is called a bad vocalist, though some amateurs prefer him to the mule; but, perhaps, he is underrated. There are many notes, when uttered alone, which are shocking to the ear, that have, in concert, an agreeable harmony. The gabble of a goose is not unpleasant in the orchestra of the barnyard, and there are many instances, no doubt, in which braying would improve harmony. If we look closely into nature, we will find nothing, not even the jargon of a frog pond, created in vain. What the Italians understand, and what most other nations *do not*, is the harmonious composition of discordant sounds. If a general concert of nature could be formed, the crow as well as the nightingale, would be necessary to the perfect symphony; and it is likely even the file and handsaw might be made to discourse excellent music. But even in a solo, the ass, according to Coleridge, has his merits. He has certainly the merit of execution. He commences with a few prelusive notes, gently, as if essaying his organs, rises in a progressive swell to enthusiasm; and then gradually dies away to a pathetic close; an exact prototype to the best German and Italian compositions, and a living sanction of the genuine and authentic instructions of l'Academie de Musique.—*Anon.*

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, FEBRUARY 17, 1849.

ASHES, Pots,	per 100 lbs.	\$6 37	to	\$6 43
Pearls,	do.	7 69	"	7 75
BALE ROPE,	lb.	6	"	8
BARK, Quercitron,	ton.	26 00	"	28 00
BEANS, White,	bush.	15	"	1 25
BEESWAX, Am. Yellow,	lb.	79	"	22
BOLT ROPE,	do.	11	"	12
BONES, ground,	bush.	40	"	55
BRISTLES, American,	lb.	25	"	65
BUTTER, Table,	do.	15	"	25
Shipping,	do.	9	"	15
CANDLES, Mould, Tallow,	do.	11	"	13
Sperm,	do.	25	"	38
Stearic,	do.	20	"	25
CHEESE,	do.	5	"	10
COAL, Anthracite,	2,000 lbs.	5 00	"	6 00
CORDAGE, American,	lb.	10	"	12
COTTON,	do.	6	"	10
COTTON BAGGING, Amer. hemp,	yard,	15	"	16
FEATHERS,	do.	30	"	40
FLAX, American,	do.	8	"	9
FLOUR, Northern, Southern and West'n bl.	do.	5 50	"	6 06
Fancy,	do.	6 25	"	6 50
Richmond City Mills,	do.	6 75	"	7 00
Buckwheat,	do.	—	"	—
Rye,	do.	3 25	"	3 44
GRAIN—Wheat, Western,	bush.	1 10	"	1 32
Red and Mixed,	do.	1 00	"	1 20
Rye,	do.	65	"	66
Corn, Northern,	do.	64	"	66
Southern,	do.	54	"	63
Barley,	do.	65	"	68
Oats,	do.	31	"	45
GUANO, Peruvian,	2,000 lbs.	50 00	"	50 00
Patagonian,	do.	35 00	"	40 00
HAY, in bales,	do.	50	"	56
HEMP, Russia, clean,	ton.	205 00	"	225 00
American, water-rotted,	do.	160 00	"	220 00
American, dew-rotted,	do.	140 00	"	200 00
HIDES, Dry Southern,	do.	7	"	8
HOPS,	lb.	4	"	12
HORNS,	100.	2 00	"	10 00
LEAD, pig,	do.	4 50	"	4 56
Pipes for Pumps, &c.	lb.	5	"	7
MEAL, Corn,	bbl.	2 75	"	3 00
Corn,	hhd.	14 00	"	14 50
NOLASSES, New Orleans,	gal.	25	"	30
MUSTARD, American,	lb.	16	"	31
NAVAL STORES—Tar,	bbl.	1 75	"	2 00
Pitch,	do.	1 25	"	1 75
Rosin,	do.	90	"	1 25
Turpentine,	do.	2 50	"	3 00
Spirits Turpentine, Southern,	gal.	35	"	36
OIL, Linseed, American,	do.	55	"	56
Castor,	do.	1 25	"	1 50
Lard,	do.	65	"	70
OIL CAKE,	100 lbs.	1 00	"	1 15
PEAS, Field,	bush.	75	"	1 25
Black eyed,	do.	1 25	"	1 50
PLASTER OF PARIS,	ton.	2 25	"	3 00
Ground, in bbls.,	of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,	bbl.	9 00	"	13 50
Prime,	do.	5 00	"	8 50
Smoked,	lb.	6	"	12
Rounds, in pickle,	do.	4	"	6
Pork, Mess,	bbl.	11 00	"	15 00
Prime,	do.	7 00	"	10 00
Lard,	do.	7	"	8
Bacon sides, Smoked,	do.	3	"	4 1/2
In pickle,	do.	3	"	4
Hams, Smoked,	do.	5	"	9
Pickled,	do.	4	"	7
Shoulders, Smoked,	do.	4	"	5
Pickled,	do.	3	"	4
RICE,	100 lbs.	2 88	"	3 38
SALT,	sack,	1 17	"	1 30
Common,	hush.	20	"	35
SEEDS—Clover,	lb.	5	"	7
Timothy,	bush.	2 00	"	3 50
Flax, clean,	do.	1 30	"	1 40
rough,	do.	1 20	"	1 25
SODA, Ash, cont'g 80 per cent. soda,	lb.	3	"	—
Sulphate Soda, ground,	do.	1	"	—
SUGAR, New Orleans,	do.	4	"	6
SUMAC, American,	ton.	35 00	"	37 00
TALLOW,	lb.	8	"	9
TOBACCO,	do.	2 1/2	"	7
WHISKEY, American,	gal.	23	"	25
WOOLS, Saxony,	lb.	35	"	60
Merino,	do.	25	"	35
Half blood,	do.	20	"	25
Common do.	do.	18	"	20

NEW-YORK CATTLE MARKET.

At Market.—1,100 Beef Cattle, (400 southern, the remainder from this state and east,) 60 Cows and Calves, and 2,500 Sheep and Lambs.

Beef Cattle.—The market is firm in prices. The sales run from \$7 to \$9 per hundred, which may be considered as an average, but some choice animals sell as high as from \$9.50 to \$10. The number of head on hand is estimated to be 100.

Cows and Calves.—All taken at from \$22.50 to \$47.50.

Sheep and Lambs.—These sold from \$1.50 to \$5.50 each—250 head on hand, unsold.

REMARKS.—Cotton and Grain are quite active with a slight advance, especially of the former. In other articles nothing of moment has transpired since our last.

Money is more difficult to be obtained.

The Weather has been intensely cold during February; yet in consequence of the excellent state of the roads, it has proved highly favorable for the northern farmer to get his produce and lumber to market. The prospects are good for the business of the ensuing season.

TO CORRESPONDENTS.—Communications have been received from T. B. Miner, J. R. S., Samuel Allen, E. S., Shelton Beach, Solon Robinson, Rip Van Winkle, A. Fleming, M. W. Phillips, John Wilkinson, Gowanus, and Reviewer.

Land Slides.—J. R. S., of Stockholm, N. J.—The cause of the landslide you mention, was doubtless a collection of water in a cavity in the hill, which forced out the bank by hydrostatic pressure. For an explanation of this phenomenon, see almost any elementary work on Natural Philosophy.

To Clarify Honey, dissolve it in an equal part by weight of water; allow it to boil up from four to six times without skimming; then remove it from the fire, and after being cooled, strain it through several strong linen cloths stretched horizontally over a jar or tub, and covered with a layer of clean and well-washed sand an inch in depth. When passed through these strainers, it will be found to be of the color of clear white wine. The liquor is finally to be evaporated over the fire to the thickness of common syrup.

Raising Corn without Manure.—Several inquiries have been made how our Winchester correspondent, of Virginia, raised 83 bushels of corn per acre, without manure, while his neighbors could grow only 35 bushels. Can he inform how it was done?

ACKNOWLEDGEMENTS.—A circular containing the list of officers of the American Agricultural Association; Transactions of the Worcester County, (Mass.) Agricultural Society, for the year 1848.

VIRGINIA LANDS.

THE attention of Northern Farmers who wish to purchase in Fairfax County, Va., is invited particularly to two farms for sale, three miles east from Fairfax Court House, thirteen from Alexandria, and fourteen from the city of Washington. There are no buildings on either tract, but, by following the custom of the country, comfortable and temporary ones can be cheaply built. The soil is well adapted to farming purposes, and there is timber on them, near two sawmills.

These farms would sell in the north, for from \$50 to \$100 per acre, and can be bought here in a more pleasant and healthy climate, one for eight, the other ten dollars per acre, on easy terms, and a good title given.

Further information given, if requested, by T. R. Love, trustee, either personally, or by letter (postage paid) directed to Fairfax Court House, Va.

f. ff.

H. FULLER.

AYRSHIRE CATTLE FOR SALE.

THE subscriber having disposed of his farm, will sell at public auction, at Three-Hills Farm, on the Cherry-Valley turnpike road, three and a half miles west of Albany, on the 14th of March next, his choice herd of Ayrshire cattle, consisting of the imported cow "Alice," her daughter "Fairy," for which the first premium was awarded at the fair of the New York State Agricultural Society, held at Saratoga Springs, in 1847; "Lassie," three years; "Moggy," two years; "Norna," one year, and "Jenny Deans," nine months old. Two-year old bull and bull calf. Also several head of cows and heifers, a cross of Ayrshire and Durham. These cattle, except Alice and Fairy, were bred by the subscriber, and are principally young and rich milkers. Also, two young boars and several breeding sows of the Medley breed.

Catalogues, with pedigrees, will be furnished on the day of sale.

Albany, Jan. 1st, 1849.

C. N. BEMENT, fct.

PERUVIAN GUANO.

ONE THOUSAND TONS of Peruvian Guano just received from the Chinche islands for sale, in lots to suit purchasers.

Also, THREE HUNDRED TONS Patagonian Guano.

A. B. ALLEN & Co., 199 & 191 Water St.

A GOOD BOOK COMING!

COLE'S AMERICAN FRUIT BOOK.

S. W. COLE, Esq., author of the popular work entitled *The American Veterinarian*, of which 22,000 copies have already been published, has, after years of patient labor and close investigation, completed his great work, entitled *Cole's American Fruit Book*, a work which we believe is destined to have a more widely-extended circulation than any similar work, ever before offered to the American public. We believe so for the following reasons:—

First—It is a mature work and a practical one, one on which Mr. Cole has spent many years of study and close examination, and knowing the wants of the community has met those wants, in a plain, concise, and familiar manner, avoiding technicalities, and ultra scientific specifications and definitions, useful only to the few—made a work intelligible to all. It will be emphatically a book for the people.

Secondly—It will have an unprecedented sale on account of its cheapness. It will make a volume of 388 closely-printed pages. Illustrated with over one hundred beautifully-executed engravings, by Brown, and will be sold for 50 cents, firmly bound in leather, and 62½ cents in fancy cloth, with gilt backs. It will contain full directions for raising, propagating, and managing fruit trees, shrubs and plants, with a description of the best varieties of Fruit, embracing several new and valuable kinds; embellished with engravings, and outlines of fruit trees, and various other designs, emphatically a book for everybody. As well for the man who eats fruit as for him who raises it. This valuable work will be published early in February.

100 agents, active, intelligent, and honest, are wanted to sell this book, in every state in the Union. A cash capital of from \$25 to \$50 will be necessary. Address (post paid), the publishers, John P. Jewett & Co., 23 Cornhill, Boston.

A rare chance for agents to make money.
C. M. SAXTON, No. 121 Fulton Street, New York, general agent for the publishers. f3t.

POUDRETTE.

THE LODI MANUFACTURING CO. offer their new and improved Poudrette, for sale at their usual rates—1 bbl. \$2; 3 bbls. \$5, and \$1.50 per barrel for any quantity over 7 barrels, delivered free of expense, on board of vessels in New York. At the factory, where vessels, drawing eight feet of water can come, it will be sold at 25 cents per bushel.

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This paper is under the united editorial control of Leonard Bacon, D.D. of New Haven. Rev. Joseph P. Thompson, of New York, Pastor of the Broadway Tabernacle Church, and Rev. Richard S. Storrs, Jr., of Brooklyn, Pastor of the Church of the Pilgrims. The most efficient assistance has also been secured in all the departments of the paper, both foreign and domestic, and everything that transpires in any part of the world, affecting the condition of man, will find the earliest record in its columns.

The paper is not the organ of any Christian sect or denomination; but as its editors and proprietors are all of them connected with the Congregational Churches of this city and Brooklyn, they will naturally look to their brethren connected with such churches, both at the east and the west, for sympathy and support. In return, they will endeavor to give them such information, advice or instruction, as may be most suited to their condition and wants as members of the great family of Christ.

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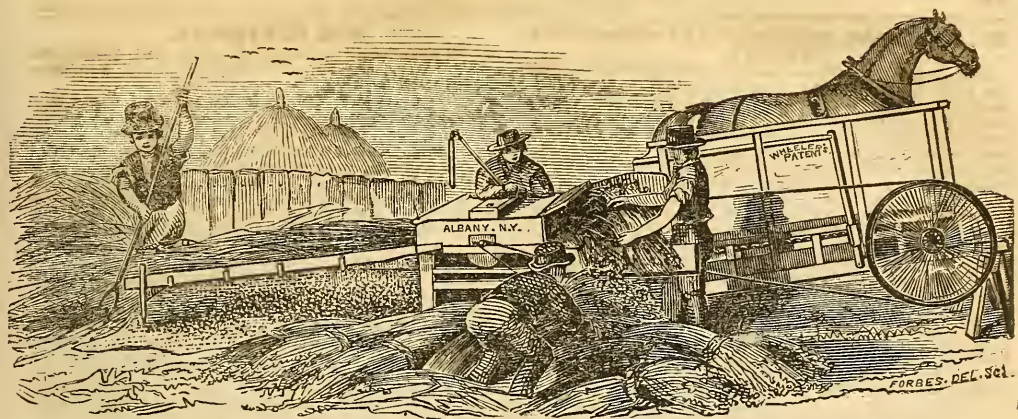
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FEB. 1, 1848.

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Their care in pruning and cultivation enables them also to send out thrifty and well-formed trees. From their large scale of propagation, they can offer to dealers very liberal discounts, where hundreds or thousands are taken. Orders or inquiries can be addressed to the proprietors at Flushing, near New York, where catalogues will also be furnished. They have established a Branch at Brighton Depot near Boston and by the entire success of their trees transplanted thither have thoroughly proved the superior adaptation of Long-Island Trees to the soil and climate of any part of New England. This they attribute to the perfect maturity attained by the wood before frost, which renders the trees suitable for transportation to any latitude.

At the season of transplanting, a salesman will be at their Brighton Branch to furnish those who may prefer obtaining their supply thence.

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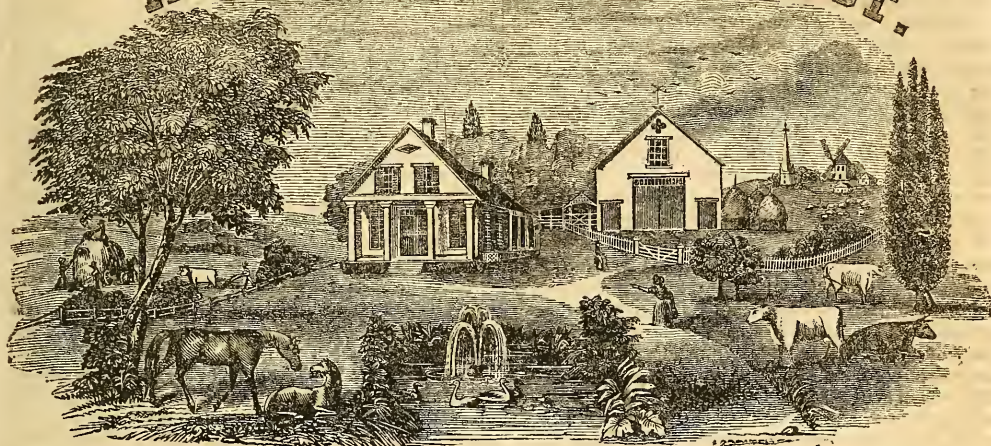
PERUVIAN GUANO

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AMERICAN AGRICULTURIST.



Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

VOL. VIII.

NEW YORK, APRIL, 1849.

NO. IV.

MESSRS. ALLEN, EDITORS.

C. M. SAXTON, Publisher, 121 Fulton Street.

THE AMERICAN AGRICULTURIST AND FARMERS' CABINET

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OUR HINTS ON THE WORK FOR THE MONTH.

In our hints and directions on the work for each month, as plowing, sowing seeds, planting trees, &c., it will be observed that they do not, in all cases, appear to be adapted for the season. But when the wide extent of country is considered, to which these directions are presumed to apply, together with the variety of climates embraced, at a time, within its limits, it is obvious that discrepancies, in these respects, must unavoidably occur. For instance, in the southern parts of Florida, Louisiana, and of Texas, where frost seldom or never is known, the operations of planting, harvesting, &c., may generally be commenced at least a month earlier than in the northern parts of Carolina, Arkansas, and of Tennessee. Again, similar operations on the farm, in the southern parts of Virginia, Kentucky, and of Missouri, may be commenced a month or two earlier than in Maine, New Hampshire, Vermont, or in the northern part of New York.

Hence the necessity, in general directions like those under consideration, of adapting them to the most southern limits of the regions they are designed to be applied. If too early for the first of the month in which they are published, the sagacious husbandman can readily postpone them a few weeks, when nature and experience should alone be his guide.

WORK FOR APRIL, NORTH AND WEST.

General Remarks.—All work neglected to be done last month or impracticable to be performed in consequence of frost or snow, as directed in our last number, may be accomplished in this. *Fences* may be repaired or new ones built; *sward-bound meadows and old fields*, as well as fields of *winter wheat and rye*, may be harrowed, top-dressed, seeded, and rolled; *tobacco beds* prepared and sown; the operations of the *kitchen garden, market*

gardens, fruit garden, flower garden, orchard, pleasure grounds, and the allotment, or classification of spring crops, may still be performed agreeably to our directions for March.

Plowing and Pulverizing Ground for Spring Crops.—All grounds not already prepared for spring crops, that have become sufficiently dry, may now be properly and *deeply* plowed, leaving no balks, and laying the furrow slices flat. We emphasize the word "*deeply*," implying that deep cultivation is indispensable, if we wish to develop the full capability of the soil; and that, under equal circumstances, the land, (very loose, sandy, soils excepted,) which is subsoiled, whether by plow, fork, or spade, will always produce the largest crops, since it is well known that the complete airing of the soil, from a depth of 12 to 20 inches, greatly facilitates those chemical changes which have been proved to be essentially requisite in promoting the healthy growth of plants. The subsoiling of hard or gravelly soils should be commenced as early as the season will permit, first by opening the furrow as deeply as possible with a common four-horse plow, and then following with the subsoil plow, drawn by four or six horses, by which means the ground will thoroughly be broken up, and shattered to a depth of 14 to 20 inches. The operation will be slow, to be sure, as not more than three fourths of an acre can be plowed in a day, and the wear and tear of tackle and teams will be great; but all this will be counterbalanced by the saving of labor and the increase of future crops; and besides, every description of subsequent culture will easily be effected more cheaply in a loose soil, than in one that is hard, like a turnpike road.

In *harrowing* newly-plowed sod, it is better to commence at the "dead furrow," in the middle of the land, running lengthwise of the furrow, in diverging curves from the centre, and lapping the harrow at least one half. By this method, it will be found that, instead of tearing up the sod, it will smooth down the furrow slice, afford the team a better surface to walk upon, require less power, and in the end, more effectually perform the work.

Application of Manures, Sowing, &c.—In order to keep your land in good condition, with the exception of those newly-cleared, and rich "bottoms," or "intervals," you must add as much vegetable matter and chemical salts, in the form of fertilizers, as you carry off. If your land yield you large crops, you ought as liberally to furnish it with manure. Remember that you cannot constantly take out of the land, and add nothing, without impoverishing it; but you can add enough to supply all you carry off, and yet, in most cases, farm your land profitably.

In the application of manures, choice should be made of those only which contribute to the nourishment and perfect growth of the particular kinds of plants you cultivate, having reference, at the same time, to an *immediate* and a *continued* effect on the crops in rotation. As a general rule, common barnyard manure and guano, with occasional amendments by green-sand or potash marl, wood or vegetable ashes, coal ashes, soot, saltpetre and the refuse of powder mills, nitrate of soda, silicate of potash, common salt, ammoniacal liquor from the gas works, blood, urine and the offal of animals, fish,

bristles, hair, wool, woollen rags and the refuse of woollen factories, burnt horn piths, bone dust, horn shavings, pondrette, lime, plaster of Paris, road scrapings and street manure, old mortar, brick dust, burnt clay, shell or coral sand, seaweed, marsh or pond muck, weeds, leaves and leaf mold, peat, charcoal dust, oil cake, cotton seed, green clover, buckwheat, vines of the cow pea, &c., will serve for almost every cultivated plant. Among these substances, plaster, charcoal dust, and potash marl, used in connexion with guano,—or, plaster, charcoal, bone dust, oyster-shell lime, and coral sand, applied in connexion with farmyard dung, will afford, perhaps, the most economical and best guarantee for a fair average return from a rotation of crops.

Guano and farmyard or stable manure, if applied alone before planting or sowing, should be plowed under to a depth of four to six inches, or they may be scattered and covered with earth in hills or drills. The same rule will also apply to the offal of animals, fish, hair, bristles, wool, woollen rags, horn shavings, horn piths, oil cake, cotton seed, weeds, and green crops. Lime, plaster, marl, coal ashes, charcoal dust, soot, old mortar, brick dust, burnt clay, coral sand, street manure, common salt, nitrate of soda, silicate of potash, bone dust, phosphate of lime, saltpetre, and the refuse of powder manufactories may be spread broadcast on the surface and harrowed in at the time of sowing the seed. The other fertilizers, as named above, may be employed in composts for top-dressings, or otherwise; and some of them may be used in a liquid state, after the plants to which they are to be applied have made some progress in their growth. This subject will be resumed from month to month, as often as the season and circumstances may require.

All those who were not able to sow their *oats* last month, from the nature of the season, or climate, should lose no time in getting them in as early as possible. In the order of rotation, where the land is in good tilth, they may follow clover, flax, turnips, carrots, potatoes, wheat, rye, barley, peas, or Indian corn, without the addition of manure. But where the land is poor, there will be an increased yield by sowing each acre, broadcast, with 1 bushel of plaster, 5 bushels of wood ashes or the same quantity of oyster-shell lime, thoroughly mixed with the seed. From 2 to 4 bushels of oats are sufficient to sow an acre, which should be well harrowed in and rolled.

Barley, also, should be sown as early this month as possible, at the rate of 2 to 4 bushels per acre. If intended to lay the field down to grass, there may be mixed with it 12 lbs. of clover seed, or 1 peck of Timothy, or 2 bushels of orchard grass seed per acre. In the order of rotation, barley may succeed wheat, oats, or a clover ley, on land in good condition, or a well-manured and cleanly-hoed crop of turnips, carrots, or Indian corn; but barnyard manures should never be applied directly to this grain, unless it be a light top-dressing of compost on different soils, or in moderate quantity after the plants are somewhat advanced in their growth.

Spring wheat may still be sown, but the earlier this is done the better. If your land has long been under cultivation and is in good tilth, the wheat, in rotation, may follow clover, flax, potatoes, turnips,

carrots, barley, or Indian corn. But if it be poor, it will be useless to attempt this crop without the addition of some fertilizer or dung. On soils only moderately rich in vegetable matter or the remains of organic manures, which were applied to the previous crops, 200 lbs. of Peruvian guano or 30 cubic yards, (six cords,) of stable or barnyard manure may be plowed under with 12 bushels of bone dust, previous to sowing the seed; or, what would still be better, a top-dressing, spread broadcast just before harrowing in the grain, composed of 15 cubic yards, (three cords,) of barnyard manure, 100 lbs. of guano, 1 bushel of plaster of Paris, and 5 bushels each, of charcoal dust, wood ashes, oyster-shell lime, bone dust, and common salt. But if your land be exhausted by injudicious tillage, double the above-named quantities may be added whether used as a top-dressing or plowed in. Land thus treated will bear an excellent crop of wheat and will be in a good condition for rotation for a series of years. From $1\frac{1}{4}$ to 2 bushels of seed may be sown to an acre, previously washed several times in strong brine, or soaked two hours in a saturated solution of Glauber's salt, and then thoroughly mixed with 6 quarts of dry, powdered, air-slacked lime. If you design to lay the field down to grass, 8 quarts of clover seed, mixed with 6 quarts of Timothy, or 1 bushel of orchard-grass seed, may be sown to each acre with the wheat.

Indian corn, if the land be rich and in good tilth, may follow, in rotation, almost any of our field crops; but if it be poor, or "bound out" by grazing or cropping with hay, it is preferable to plant with potatoes the first year, and after harvesting them in the fall, to spread broadcast on each acre, 50 cubic yards, (ten cords,) of barnyard manure which should immediately be plowed in; and the spring following, 75 cubic yards, (fifteen cords,) of green, unfermented stable manure, spread on the surface and plowed under, should be added to bring the land in good heart. Then, as soon as the apple blossom begins to appear, and the Juneberry, (shadbush,) is in full blow, or the "white-oak leaf, is of the size of a squirrel's ear," the corn may be planted and cultivated the usual way. But as comparatively few of our farmers, in the Atlantic states, have sufficient manure of this kind to apply to their lands, they must be fertilized by other and more economical means. In many localities, this may be done with oyster-shell lime, marl, wood ashes, guano, poudrette, fish, swamp and pond muck, composted or worked over by hogs, or the scrapings of roads and streets. If your land has not been previously limed or marled, by nature or otherwise, and the soil is rather thin, 25 bushels of lime to the acre, sown broadcast and harrowed in previous to planting, will be sufficient, or what would be equivalent, say 50 bushels of leached ashes or 100 bushels of marl. If the ground be in tolerable heart, double these quantities may be applied; but if stiff and clayey, or is rich in vegetable or organic remains, and is deficient in calcareous matter, 100 bushels of lime may be employed to the acre or 300 bushels of marl. Pigstye manure, street sweepings, and composts made of road scrapings, fish, guano, plaster of Paris, pond muck, &c., may be applied, in the hill, at the rate of 75 cubic yards or 15 cords per acre. Poudrette should not be used

as an exclusive manure for corn, but may be applied at the time of planting by scattering a gill to each hill. The application of guano, fish, charcoal, plaster, oyster-shell lime, and coal or wood ashes will further be treated of in the after culture.

Early potatoes, if not planted last month, should be put in this, as soon as the season will permit. If the ground is not already sufficiently rich, each hill should receive about 3 quarts of horse manure and half a pint of oyster-shell lime, as soon as the potatoes are dropped, say 8 cords or 40 cubic yards to the acre. If planted on a mellow sod, no manure will be required other than the oyster-shell lime. In all cases, the soil should be well pulverized by the plow and harrow so as to be perfectly friable, dry, and loose. Cultivating in hills, say three feet apart each way, is the most convenient mode of tillage, as they admit of a more thorough stirring of the ground with the cultivator or plow. Two middling-sized potatoes, (say two inches in diameter,) or three small ones, (one inch in diameter,) may be dropped in each hill, then covered with the manure, and lastly with two or three inches of light earth. Three and a half bushels of the small-sized potatoes or 20 bushels of the larger ones will be sufficient to plant an acre. "Greening" the tubers in some warm apartment, as near a kitchen stove, for a few weeks previous to planting, will hasten the maturity of the crop. And potatoes with sprouted shoots, eight inches long, laid horizontally in the bottom of the hills have a tendency to increase the yields on account of a greater length of stem below ground.

Onions may be cultivated agreeably to the directions given at pp. 105 and 141, of our seventh volume; and *celery* as directed at p. 78 of the same.

For the cultivation of *carrots*, *parsnips*, *mangold wurtzel*, *beets*, &c., as field crops, the reader is referred to Allen's "American Farm Book," and our back volumes.

Any work omitted last month, as laid down in our March number, may be done this, if the forwardness of the season will permit.

Kitchen Garden.—Early cucumbers, melons, cabbages, cauliflowers, lettuce, radishes, &c., which have been brought forward in hot beds, should be transplanted this month into open ground. Let the asparagus beds be attended to. Sow the various kinds of table vegetables and early root crops for open culture. Tomatoes, eggplants, and peppers, that have been forwarded in pots, can be planted out the latter part of the month.

Fruit Garden and Orchard.—All kinds of northern fruit trees should be transplanted this month, before the leaf buds come out. Grafting and spring inoculation must also be performed. Strawberry beds may now be dressed, cleaned, and supplied with a small sprinkling of guano or some other stimulating manure. Currants, raspberries, and gooseberries, that have not received attention before, can now be pruned.

Flower Garden and Pleasure Grounds.—The ground about bulbs that have not yet started may now be forked or hoed. Herbaceous perennials may be transplanted into flower borders. Hedges and shrubs may be trimmed and box-edging set out. Top-dress lawns.

WORK FOR APRIL, SOUTH.

Cultivation of Cotton.—At the beginning of this month, attend to the planting of cotton seed, and continue its culture as recommended at p. 81, of our second volume.

Rice.—Plant upland rice in drills about 18 inches apart, or sow broadcast and harrow in the seed as with lowland rice. Cover the ground two inches thick with old rice straw, in order to keep down grass and weeds and to nourish the crop. Irrigation is unnecessary in the cultivation of this variety of rice. It will grow on poor, sandy ridges as well as on lands that are wet. Continue to sow lowland rice as directed last month.

Cane Fields.—Attend to your cane fields; keep the earth loose and clear of weeds.

Tobacco Plants.—Occasionally stir the earth around your tobacco plants, both with the hand and the hoe. First, *shave* the surface, and after the plants increase in size, gradually draw a slight bed towards them. Examine the plants closely, every night and morning, and destroy the numerous worms which feed upon them. First, look for a small grub about the roots under ground, and afterwards a large ugly worm on the leaf. There is also a small worm which attacks the buds of the plant, and if not killed, will surely prevent its further growth. Another worm, of a still smaller size, may be found within the two coats of the leaves, which feeds on the juices of the plant alone.

Kitchen Garden.—During this month, plant tomatoes, cabbage, chives, early peas, leeks, parsley, beets, carrots, mustard, celery, eggplant, lettuce, roquet, radishes, (long and round,) beans, okra, cucumbers, melons, pumpkins, squashes, and Indian corn. Prepare your ground for sweet potatoes, as directed last month.

Fruit Garden, Shrubbery, &c.—Now is a good time to transplant evergreens of all kinds, including lemons and oranges. Let them be watered, until they take root.

CUTTING AND GRINDING SUGAR CANE.

From private letters from some of our southern friends, we observe that they take exceptions to our remarks in the "work for the months of January and February," in regard to cutting and grinding cane. In preparing these articles, a wider range must be admitted for all our readers, in point time and season, than can be limited to any individual or section. We have long been perfectly aware that the planters of Louisiana generally complete their cane harvest early in December. But the case is far different in the southern parts of Florida and in the south-easterly part of Texas, where we have numerous subscribers.

We make this explanation in relation to one product only, in order that our readers may fully understand that, *relative* periods can only be assigned for sowing, planting, and harvesting particular products, and that considerable variations must necessarily be made in applying our remarks to every section where our journal is read or known.

THE QUANTITY OF SEEDS USUALLY SOWN TO AN ACRE.

We are often applied to for information as to the proper quantity of field and garden seeds that is necessary to sow an acre of ground. This, it

will be perceived, cannot be definitely answered, as all seeds differ in their degree of excitability, or rapidity of germination, and are influenced more or less by the moisture, temperature, and richness of the soil, as well as by the season and climate in which they are sown. Thus, no two seeds taken from the same seed vessel will germinate precisely at the same time, but on the contrary, one will often do so promptly, while its companion seed will remain dormant in the soil for one or more years.

For instance, fresh tobacco seedlings have been known to continue to appear annually for ten years on the same plot, though no seed was sown after the first year. The same phenomenon often occurs for two or three years, with the hawthorn, the peony, and other plants. Why one seed is more easily excited than another is as yet unexplained.

The quantity of field seeds usually sown broadcast per acre, in this country, is as follows:—

Wheat,	-	-	1½	to	2	bushels.
Barley,	-	-	1½	"	2½	"
Oats,	-	-	2	"	4	"
Rye,	-	-	1	"	2	"
Buckwheat,	-	-	¾	"	1½	"
Millet,	-	-	1	"	1½	"
Indian corn,	-	-	1	"	2	"
Rice,	-	-	2	"	2½	"
Beans,	-	-	2	"	3	"
Peas,	-	-	2½	"	3½	"
Hemp,	-	-	1	"	1½	"
Flax,	-	-	½	"	2	"
Timothy,	-	-	12	"	24	quarts.
Mustard,	-	-	8	"	20	"
Herd's grass, (red top),	-	-	12	"	16	"
Flat turnip,	-	-	2	"	3	lbs.
Red clover,	-	-	10	"	16	"
White clover,	-	-	3	"	4	"
Kentucky blue grass,	-	-	10	"	15	"
Ray grass,	-	-	10	"	16	"
Orchard grass, cock's foot,	-	-	20	"	30	"

The following table shows the quantity of seeds usually sown to an acre in rows or drills:—

Cotton seed,	-	2	to	5	bushels
Broom corn,	-	1	"	1½	"
Beans,	-	1½	"	2	"
Peas,	-	1½	"	2	"
Peanuts,	-	1	"	2	"
Potatoes,	-	3	"	25	"
Weld,	-	2	"	4	quarts
Woad,	-	4	"	6	lbs.
Lucern,	-	8	"	10	"
Onions,	-	4	"	5	"
Carrots,	-	2	"	2½	"
Parsnips,	-	4	"	5	"
Beets,	-	4	"	6	"

BROWN CORN.

Distances of hills apart.		Quantity required 4 grs. to a hill.	Quantity required 5 grs. to a hill.
Feet.	Feet.	Quarts.	Quarts.
3	by 2	14.5	18.2
3	" 3	9.7	12.1
3½	" 3	8.3	10.4
3½	" 3½	7.1	8.9
4	" 3	7.3	9.1
4	" 3½	6.2	7.8
4	" 4	5.4	6.8

ECONOMICAL BEE HOUSE.

ONE of the most delusive errors of the age, which I have had to combat with, is the prevailing opinion among bee keepers of this country, and I might add, of the whole world, that bees should be kept as warm as possible in winter, especially, and at all other times when the thermometer does not rise above 80° or 90°F. In order to produce the desired heat, bee houses are constructed, as warm as possible, fronting the south, of course; and, during the heat of summer, the hives stand exposed, perhaps, to the full rays of the sun, with not a breath of air circulating around them, and where a steak could almost be broiled, if necessary. If not fully exposed to the rays of the sun, the heat merely from reflection, is so intense that the labors of this insect are often entirely suspended, and they are seen clustering upon the outsides of their hives, utterly unable to exist within.

There seems to be a pall of moral darkness hovering over the management of bees, from one end of the globe to the other. While the march of intellect is making the most rapid strides to perfection in the arts; while every branch of science and industry is moving onward, the management of the little bee is clouded with tradition and superstition, and now lies, almost precisely where it did in the days of Aristotle and Pliny.

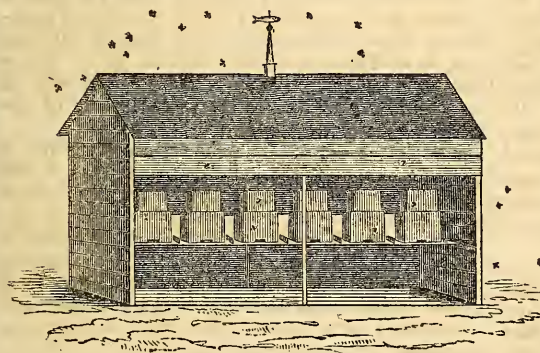


FIG. 27. BEE HOUSE.

It is true, many persons have attempted a revolution in the labors of the bee, seeking by art and invention to draw from her, great and unprecedented gatherings of the mellifluous juices; but they have greatly mistaken the nature of the insect, with which they have to deal. She requires not the aid of man, to teach her the art of producing honey. Perfect in her labors, she stands forth a pattern for man to follow—not by him to be turned aside from the course that God has laid before her. She requires no stimulus, or incentive to action from us, but only asks a tenement of the proper dimensions, and her just inheritance of the air of heaven, that is cruelly withheld from her, through ignorance, and she will perform all that nature demands of her.

By the thousand-and-one complicated inventions of the day, that have nothing but their novelty to recommend them, the bee is retarded, athwarted, and

well nigh broken down in her vigorous, primeval spirit, that actuates her in the forest, where she has nature alone to deal with. The only manner in which we can aid her in her labors, is to permit her to carry out her own natural habits and customs, to the greatest possible extent. She wants no *screens, bars, tubes, ventilators*, nor other *humbuggery* about her; but simply the free use of her own powers—her own instinct and reason, to protect her from the dangers of every foe.

The preceding cut shows a bee house twelve feet long, five feet wide, and six feet high to the plates that receive the roof. It is simply clapboarded up against ordinary joists. It may be ceiled or plastered on the inside, if desirable. There is an opening in the rear, one foot wide, as may be perceived in the illustration. This is the principle that I have introduced, and which is entirely new. It is a principle that can never be subverted, and it is also a principle, that needs only to be explained, to carry conviction to every man's mind of its necessity.

It will also be perceived by the engraving, that a couple of boards are placed in front, under the eaves of the roof. The lower one is hung to the upper one by butt hinges, and is susceptible of being raised, and let down, at pleasure. This is another improvement that I submit. The object of this movable board, is to allow the rays of the sun to enter freely, in the months of March, April, and

May; when the larvæ are in progress of development, and at the only season when bees require the benefit of the sun; that is, to shine fully upon the hives. In the summer, fall, and winter, it is to be let down, and thus shade the hives as much as possible.

The opening in the rear of the building is one foot wide; to close which, a shutter is made of a single board, well cleated to prevent warping, as well as that in front also. It is hung on hinges, and is to be kept open at all seasons except in the months of March, April, and May as above, or when it should be temporarily closed, during the prevalence of very high winds, when the bees meet with difficulty in alighting at the hives, on their return from the fields.

The hives may rest on a shelf floor board, so arranged as to be moved back and forward at pleasure. The benefit of this is, to place the hives in the spring, where the rays of the sun will fully reach them, and when warm weather approaches, to move them back where they will be in the shade. In the winter season, they should be moved back, and the rear shutter kept raised. By this course, the bees will not feel inclined to go abroad much, and especially when the ground is covered with snow; not one bee in ten will leave the hives, that would come forth, if this opening did not exist. I need not here inform the reader, how many thousand families of bees are destroyed in this country annually, by so placing them, that false and deceptive appearances of the temperature of the atmosphere allure them to their destruction.

Hives may be suspended, or they may rest on stools in a house of this character. I simply give the principle of its construction, and the apiarian may build of such size as he may choose, and

place it wherever he may please. A house of this description, constructed of bricks, has great merit; but I cannot go further in the details of this highly important subject on this occasion. The whole is fully and elaborately discussed in my "Manual" of 349 pages about to be issued from the press, the character of which has not been overrated. I have concluded an arrangement with one of the most extensive publishing houses in Broadway, to forward the plates to England, for the purpose of appearing there, simultaneously with its publication here.

T. B. MINER.

New York, Feb. 15th, 1849.

ADULTERATION OF FOOD.—No. 10.

Catchup.—The article imported under the name of "walnut catchup" is usually strongly impregnated with the salts of copper. In fact, this condiment is often nothing else than the residue left after the process employed for obtaining distilled vinegar, subsequently diluted with a decoction of the outer, green bark of the English walnut, (Madeira nut,) and seasoned with allspice, Cayenne pepper, onions, and common salt.

When catchup, or indeed any sauce, is prepared by boiling in a copper or brass vessel, it invariably retains traces, and even large proportions of copper on the one hand, and of copper and zinc on the other, both of which, to a greater or less extent, are dangerous in use. Thus, in making walnut catchup, the outer green shell of the nut, or the juice of the same, is usually boiled in a copper vessel after having been suffered to turn black, by exposure to the air in combination with common salt, with anchovies, garlic, shalotes, cloves, allspice, mace, pepper, ginger, horseradish, vinegar, &c., the produce of which must always be contaminated with metallic salts. The only method by which this evil can be avoided, is to have the inner surface of the copper employed well tinned, or to use salt-glazed earthen vessels, or those made of iron properly enamelled within.

At present, both mushroom and walnut catchup, are manufactured in a similar manner; and in many instances, the former is often adulterated with from one fourth to two thirds of the latter. In fact, many of the articles imported and sold in this country under the names of walnut and mushroom catchup, consists of a heterogeneous mixture of all kinds of materials that are convertible into the semblance of catchup.

Olive Oil.—The adulteration olive or salad oil is generally subject to, is the addition of nut oil, oil of poppies, lard oil, and other animal or vegetable oils of inferior quality and price. Sometimes it contains a poisonous admixture of lead or zinc, which is accidentally derived from some of the vessels employed in its manufacture, as is practiced in Spain, by suffering the oil to become clear in leaden cisterns before it is brought to market for sale.

Olive oil, it is well known, is the product from the pulp of the fruit of the olive, and when pure, is slightly yellow, or greenish yellow, (more especially when new,) very fluid, slightly odorous, and possesses a soft and agreeable taste. It is one of the least changeable of oils, but when not carefully made, soon becomes rancid, and then possesses a very disagreeable taste and smell. If pure,

when shaken in a vial only half filled, the "bead," or bubbles, rapidly disappear; but if adulterated with poppy or nut oil, they continue longer before they burst. Olive oil is also completely congealed when cooled by ice; but the oil of poppies remains partly liquid, even when it forms less than one fourth of the bulk; and nut oil, the extract of the kernel of the Madeira nut, (*Juglans regia*), is still more easily detected, as it does not solidify before it reaches a temperature of 16° below zero of Fahrenheit's scale. As the specific gravity of olive oil is less than either that of nut oil or that of the oil of poppies, its density will accordingly be increased in proportion to the adulteration of the two last named.

The addition of lard oil can easily be detected by the taste and smell, particularly when the suspected article is heated, or slightly burnt over a brisk fire.

THE COW—HER DISEASES AND MANAGEMENT. No. 11.

Blain, or Blistered Tongue.—This disease generally prevails during the months of March, April, and May. Its attacks are most frequent with cows which have been brought in lean and low in condition, and have begun to thrive and get into a better state. It also comes on when the weather is somewhat variable, as those days which are alternated with sunshine and storms, or showers of rain or snow.

The malady evidently proceeds from too great a fullness of the arteries, by which too great a quantity of blood is determined to the head of the animal, as well as to the whole external parts. Hence the regular circulation is altered, and a state of stagnation is produced in the various parts of the body.

The first symptoms that show themselves are a swelling of the eyes and eyelids, as well as of the fundament, "shape," udder, and teats, all of which assume, more or less, a purple appearance. In the progress of the disease, the distress of the animal is so great, that she opens her mouth wide, extending her tongue out of it to the utmost stretch, from which issues a considerable quantity of watery and frothy fluid. On examining the tongue, a large blister generally appears on its under side, and the inside of the mouth sometimes assumes a purplish hue.

When the disease advances to this height, the whole of the skin acquires a similar state of swelling as that described in the tongue, from the rapid determination of the blood to the surface. Indeed, the body of the cow, when touched, sometimes feels quite moist, and the roots of the hair become surfeited with blood.

This malady is considered as highly dangerous, if not timely remedied and diligently attended to. The first and most certain means of relief is copious bleeding; and if performed on the first attack, the cure may be considered as certain. At this stage of the disease, a common fleam will be sufficient for the operation, and a quantity of blood not less than two or three quarts may be taken away. By this discharge, the symptoms of the swelling will abate in every part of the body; but if the operation has been delayed till the disease has gained ground, the lancet, or a sharp-pointed knife must be used, which it will often be necessary to

penetrate into the jugular vein no less than two inches and a half, from the thickness of the skin, before the requisite evacuation can be effected. Should the operator be timid, and the animal show symptoms of immediate danger, the same relief may be obtained by cutting off a piece from the tail or ear, or by thrusting a slender-bladed knife through the gristle of the nose. When the operation of bleeding is complete, and some abatement of the disease obtained, the following medicine may be given, at one dose, in two quarts of warm water gruel, made of oat or Indian meal, in which half a pint of molasses has been previously mixed:—

Epsom salts, $\frac{1}{2}$ lb; mustard, in powder, $1\frac{1}{2}$ oz.; aniseed, powdered, $\frac{1}{2}$ oz.; juniper berries, powdered, $1\frac{1}{2}$ oz.; saltpetre, (nitre,) $\frac{1}{2}$ oz.

This medicine must be varied in its dose according to the size and strength of the animal; as one and a half pounds of Epsom salts will be necessary for cows of a larger size, while the quantity as directed above will be sufficient for small ones. If the medicine prove laxative, it will be unnecessary to give more; but should it not have any effect in sixteen hours, the dose may be repeated.

The blisters under the tongue, generally require a particular management; first by breaking them, and then rubbing the parts with salt and vinegar, which will resist the effects of the inflammation, and effect a cure.

In three or four days after the abatement of the disease, the hide of the animal sometimes becomes extremely hard, and particularly so on each side of the fore ribs; and this hardness so increases that this part of the skin will be lifeless and destroyed. In the course of a fortnight it will gradually separate from the body, bringing with it the hair and its roots, in the place of which a fresh skin will be formed, with the exception of a few points, that will be somewhat more tedious to heal. In the latter case, the operation of bleeding and purging with Epsom salts, as directed above, should be succeeded by the following diaphoretic medicine, administered at one dose, in three pints of mild beer or ale, to be repeated every day, or every other day, as circumstances may require, until the cure is complete:—

Sulphur, 3 oz.; saltpetre, $\frac{1}{2}$ oz.; valerian, $\frac{1}{2}$ oz.; camphor, $1\frac{1}{2}$ drachms; grains of Paradise, 3 drachms.

During the continuance of the before-named medicines, the regimen of the cow should consist of water gruel, warm mash made of malt and bran, or Indian meal, given with sweet hay, which should be followed for some days before she is made to return to her usual feeding.

PER CENTAGE OF OIL PRODUCED BY VARIOUS SEEDS.—The oils contained in various seeds, as given by Professor Johnston, are as follows:—

		per cent.
Flax seed,	-	11 to 22
Hemp seed,	-	14 " 25
Rape seed,	-	40 " 70
White mustard seed,	-	36 " 38
Sweet almonds,	-	40 " 54
Bitter almonds,	-	28 " 46

AGRICULTURAL EDUCATION IN BAVARIA.

THE agriculture of Bavaria, for some years past, has experienced a great improvement in consequence of the system of national education which has been adopted, and by the teaching of agriculture and gardening both by books and examples in the schools. One of the first consequences was an *improved rotation of crops*. Almost the whole of this advancement originated with M. Hazzi, an agricultural writer and editor of an agricultural paper, in Munich. The activity and patriotic exertions of this gentleman are beyond all praise. It was chiefly through his labors that a piece of ground was added to every parochial school in Bavaria, to be cultivated by the larger pupils in their leisure hours, under the direction of their teacher.

In these schools the boys were practically taught agriculture, horticulture, domestic economy, and forest as well as orchard culture, by the aid of small duodecimo catechisms, illustrated by wood cuts, which were afforded for seven or eight cents per volume. The girls are taught, in a similar manner, domestic economy, including cookery, and the rearing and management of silkworms.

Since these schools have come into existence, an entirely new generation of cultivators have arisen, and the consequence has been, that agriculture in Bavaria, more especially what may be called "cottage agriculture," or rural economy, has been carried to a higher degree of perfection than in any other state in Central Germany.

As a powerful means of extending a knowledge of improved husbandry in the United States, it is believed that if a similar plan were adopted in our common schools, this great object could be attained.

SUGAR CANE ON WORN-OUT COTTON LANDS.

WE have recently been gratified by the notice from a southern correspondent, of the luxuriant growth of the cane upon worn-out cotton uplands. This seems to have been looked upon with much wonder and admiration, by such as are not properly versed in the first principles of agricultural science. The land which had become exhausted by the constant cropping of corn and cotton, is found to produce largely of a plant never before grown upon it. This is simply a good illustration of the beneficial effects of *rotation*, one of the great and important discoveries of modern times. The available matters of nutrition for certain plants have become exhausted in the proportion required, leaving others, however, in sufficient quantities to provide a full supply to a different class of plants. On occupying the field with these, a luxuriant growth is the result, which the scientific farmer would have confidently expected, but which the novice and unreflecting, more especially the *non-reading* portion of the community, look upon with unmitigated surprise. This is one aspect of the case, and the same non-reading class are destined to another disappointment, but in opposite direction. Like the simpleton who accidentally found a knife, they will be looking constantly at the same place for another, which they may never be destined to find.

If sugar cane be continually replanted on the same field, without the addition of manures, this crop, too, will be found to exhaust its proper pabulum or fertilizing ingredients, and soon it will yield

no more sugar than it now does of cotton or corn. *Rotation*, with the addition of *specific manures*, (such as contain the silicate of potash, the carbonates of lime and potash, the phosphates of lime, soda, and magnesia, phosphoric acid, the oxides of iron, &c., &c., the ingredients most essential to the successful growth of the cane, or those which are most largely taken up by it,) will be found the only means of securing the continuance of good and satisfactory crops.

REVIEW OF THE JANUARY NUMBER OF THE AGRICULTURIST.

Rough Notes by the Way, No. 5.—Mr. A. is mistaken in supposing that the readers of the *Agriculturist* are so matter-of-fact sort of people that his details would prove tedious. It is these little gossiping items that are the most interesting. It is the great error of nearly all agricultural papers, that they are too much filled with matter-of-fact essays, to interest the million. "The pill must be gilded to be readily swallowed."

American Indestructible Mineral Paint.—If this new substance proves to be one half that it seems to promise, it is one of the most valuable discoveries of the age. This notice would have been much more satisfactory if it had given the cost, for instance, of covering 100 square feet of shingle roof with a sufficient coat. The great difficulty, so far as I have observed, in covering roofs with any preparation of earthy material, arises from the shrinking and swelling of wood in our variable climate, which cracks the covering. I should like to know whether this material is effected in this way. Also, how far it is fire-proof. What degree of heat will an ordinary coating of it stand without injury? It certainly cannot be pretended that the wood will char without destroying the coating, or that it would prevent a roof from taking fire under a high degree of heat. It would appear from this statement, that it is indestructible in water also. If applied to the surface of a wooden cistern, how far would it answer as a substitute for cement? When applied to cloth, does folding crack it? If not, a kind of salamander dress might be made of it.

Adulteration of Food—Lozenges, &c.—One of the best remedies against the dangerous effects of these vile adulterations and poisonings is, never to put the dirty trash in your mouth, and you never will be injured; and if all would pursue the same course, the manufacturers would soon be driven to some more honest employment.

Shearing Horses.—I have heard of a certain other animal being sheared by a certain old fellow with a tail, and it is said there was "a great cry, and but little wool." Whether the profit of horse-shearing is about the same, this deponent sayeth not, but he thinketh.

Wire Fences.—This is a most important subject, and a very interesting article. The only objection to this statement of Mr. Peters' is, that he has built the fence too cheap. I am not prepared to believe that wire fence can be built so much cheaper than board fence. In fact, it does not much exceed the cost of ordinary rail fence on a new woodland farm. And in many parts of the country, if the cost, as made out by Mr. Peters, was quadrupled, it would still be the cheapest fence that could be built. The matter of building wire fences is

well worth the attention of prairie farmers. And so it is of those on Long Island, and in parts of New Jersey, Delaware, and Maryland. Yes, and in good old New England, too, except where it is absolutely necessary to get rid of stone. And it strikes me that farming is very expensive on the lower part of the Mississippi River; though it is so long since I have been in that region that I cannot say for certain that wire fences would be cheaper than those of wood. But I guess so.

Hints on Enclosures in Rural Cemeteries.—As an addition to these hints, I would hint at a wire fence, which, until the shrubbery is grown, would be the prettiest of all other fences, as not giving the least obstruction to the view of whatever may be growing inside.

Agricultural Tour South and West, No. 1.—This number indicates that more is coming. Well, I am glad of it. And I trust we may look for something interesting every month. I should like to criticise our old friend Solon a little, now and then, but somehow or other, he don't seem to bear it right well from me; at any rate, I have been rather unfortunate in trying to work myself into his good graces.

Plowing with Elephants in India.—I don't know exactly about plowing with them, but if sundry of our "fellow citizens" don't get a view of the animal digging in California, I shall be greatly mistaken in the signs of the times, and I am inclined to think it will not be the "docile little animal" here mentioned, either; but one of full size.

Ventilate Your Stables.—Yes, and houses, too. Recollect that pure air is as necessary for humans, as horned cattle.

Agricultural Capabilities of Florida.—It is said in this article that the sugar cane, in Florida, tassels and flowers. Does it ever bear seed? [No.] I have no doubt of the descriptive truth of this article of the capabilities of this state, though the cultivable portion of it is comparatively small, and, notwithstanding the wet part could be so easily drained, and made equally fertile, I prophecy that congress will not do it. That would be an undertaking altogether too much of a utilitarian character, to suit that body of demagogues and brawlers. They would prefer spending ten millions of dollars any time in killing Seminoles, and filling scoundrel contractors' pockets, than a single cent for agricultural improvement.

"A bright plow share is the cheapest commodity ever used by a farmer," except the good health obtained in keeping it so.

Farms of Messrs. Wadsworth and Ayrault.—I only notice this article merely to welcome our old acquaintance, Mr. Sotham, once more, in the columns of the *Agriculturist*, and to see him still doing battle for the Herefords, like a noble and true champion as he is of this noble breed of cattle. The picture that he gives of the meadows of Messrs. W. & A. is such as no doubt drew his thoughts to his own native land. The delightful shade trees, under which the stock could shield themselves from a burning sun, are, in my opinion, one of the greatest ornaments of a farm. Here he found the black walnut and butternut, the sugar maple, than which a finer shade tree never grew; besides the fine old oaks, whose extraordinary dimensions

showed that the "woodman spared that tree," when the original forest was swept away by the axe in "auld lang syne." I love the grandeur of these old trees, the landmarks of an age and people whose very existence is fast fading from the recollection of the present generation. I like very much the notice, coming, as it does, from an Englishman, of those "American cottages." When I was last on the farm of Mr. Ayrault, they were not built; but the old oaks were there, and I hope no barbarian will ever remove them, while nature continues to clothe them in the green leaves of summer. It is said that tastes differ; but I say that any man who would destroy one of these old trees, or disfigure a fine natural landscape, with such "rude attempts at architecture," as Mr. Sotham speaks of, are utterly destitute of taste—they have none to differ with. Mr. S. says, "it is impossible to keep lands in condition without sheep and cattle." Not so. Judicious culture, proper rotation, turning in of green crops, lime, plaster, ashes, and artificial manures will keep land in good condition without cattle or sheep. Though I am free to acknowledge that stock are much the most profitable manure makers, upon nearly all farms.

Guano.—This statement is conclusive as to the cheap fertilizing properties of guano. A fact that I never doubted. How could I, when it consists of ammonia and phosphate of lime? But I still reiterate the question, is it necessary to go to Peru after these substances?

Season for Felling Resinous Timber.—Here is a text that ought to be reiterated and well studied. "In cutting timber of all kinds, advantage should be taken of the season which will favor their duration and strength." No general directions can be given as to the right time to cut timber that will suit all this country, and all kinds of timber. A very valuable article might be made, which would give a short sketch of each kind of tree, and the proper time for felling it for timber, and also for destruction, in different parts of the United States, where our climate is so diversified, and timber known by so many different names. [It cannot be done, Captain. Experiments have never been made with sufficient care to compile such an article.]

Remarks on the Principles of Breeding.—I have ever been of the opinion, notwithstanding the good results of cross-breeding, that a good animal should not be set aside for relationship alone; but that, breeding in-and-in, with good stock, is better than breeding out, till all the good points are out. The remarks upon keeping breeding mothers too fat are very correct. It is a foolish waste of food. There are some sows, however, that it is very difficult to keep sufficiently low in flesh, while breeding, as they seem to have, at that time, a natural tendency to take on fat. Color, it is said, in this article, is hereditary, and cannot be got rid of, except by crossing. It strikes me that I read somewhere, when I was a boy, of a certain young man who was tending the flocks of an old fellow, who had a daughter that he wished to marry, succeeding pretty well in changing the color by an exhibition of "peeled sticks;" though he might have set them crosswise; and hence the name of "cross-breeding."

Beware of the Ring Bone.—I only notice this article, to approve of standing, not only colts, but all

kinds of horses upon earth floors. In order to make them, take stiff clay, and, if convenient, mix with it as much gravel, and moisten as can conveniently be done, and make the stable floor of this, a foot higher than the ground outside, by pounding it in the most solid manner, and a little sloping, so as to carry the water off. It will last a long time, and is much better than a plank floor.

The Cotton Crop.—It appears to me that these calculations every year, as to what this great crop is going to be, is about one half of it guess work. No doubt the information of Dr. Phillips is such as will enable him to guess as well as anybody else; but who can tell before it is too late to profit by it, whether he has guessed right or not? The calculations and directions of the Dr. how to make the Mississippi cotton lands produce from 300 to 500 pounds more to the acre than they now do, is all very good, but it would be vastly better for all the cotton planters, if he could tell them how to produce one half the quantity that they now do for ten years, unless they will manufacture some of the surplus at home. Suppose, under the present system, the crop should be increased 50 per cent., and the New-Orleans market crowded with 1,800,000 bales every year. Would the planter obtain any more money than he now does, or did, when the crop was only half its present size? If not, why increase it?

Cheap Method of Fattening Poultry.—"Good enough to sell." I have heard of a plan for fattening hogs upon this cheap system. Confine three hogs in a slip so narrow that they cannot turn round. Feed the first on whole corn, and he merely will grind it for the second, which will beat the first in fattening, while the third will make as good pork as the first. Whether the plan could be carried out any further by confining a goose, duck, or hen, in a row behind, I am not able to say, nor what would be the quality of the meat.

Steam Power for Agricultural Purposes.—So your recent "English papers" have brought you a description of a "Steam Excavator." I wonder if it is Page's ditching machine, of Baltimore; or has some other Yankee gone over to England to get in operation a machine that his own countrymen failed to appreciate? Excavating machines have been at work, in this country, many years, the principle of which is undoubtedly the same as this. Truly, there is no need of importing such a machine, if our people are disposed to patronize Yankee invention.

Upland, or Mountain Rice.—Will this grain grow at the north, and how far? Has anybody ever tried "hulled wheat," as a substitute for rice? And if so, how does anybody, and his wife, like the substitute?

The Best Manure for Sugar Cane.—If the trash is burnt upon the land, will it benefit the plant anything like as much as plowing it in? When I was in the south, some twenty years ago, the common practice was, to set fire to the trash, and burn it as it lay spread over the ground. I wish some of your southern correspondents would enlighten us upon this subject. Another thing—what becomes of the cane stalks after the juice is extracted? Are they used for manure or for fuel? [They are sometimes plowed under, but generally are burnt or

allowed to rot in heaps, or are thrown into the river.—Eds.]

Pear Trees Injured by Insects.—What a valuable and interesting article this is under this head, from two practical and scientific men. Although it might look like a great job to go over a large orchard with such a wash; yet, if the insect could thereby be got rid of, it would well pay the cost and trouble. I am inclined to think that the disease is spreading somewhat extensively, and it, therefore, becomes the interest of readers to have their attention called to this article, that they may read it again.

Importation of Pure-bred Saxony Sheep.—Mr. Taintor is certainly entitled to much credit for his enterprise in getting into this country some of the best sheep ever imported. I hope he may meet his reward, if not in dollars, in an approving conscience, for the vast benefit he may confer upon his country by the manner he uses his wealth. If the little meed of commendation that I am able to bestow upon him, will serve as the least fraction of satisfaction to him, I shall think I have only done my duty by so doing. But what effect are those "immense flocks now forming on the sea of Azof" to have upon this country? If to reduce the price of wool below its present value, one million acres of equally well-suited land might as well lie idle, as to be made into sheep walks. Men will look for business that brings more profit.

Southern Matters.—I am pleased to see that this New-Orleans branch of the great Agricultural Warehouse is not to be broken up. Not that it is of any particular interest to me, but because I look upon every establishment of this sort, as a kind of entering wedge of improvement in the condition of the agriculture of the country. If this Mr. Franklin is the old cotton merchant that I used to know in New Orleans, some years ago, when I was in the freighting business there, the establishment has fallen into good hands—one who may be depended upon for integrity, though I presume his knowledge of agricultural matters is not equal to that of R. L. A.; yet, if I mistake not, he was raised upon a New-England Farm. I hope the business will grow to be equal to that of New York. It will be for planters' interest to patronize this establishment in New Orleans.

Small Holdings.—This is one of the beauties of America. Look at the many thousands in this country, who fill this picture drawn by Adam Smith. To be able to look around and say, "this is my own," is a stimulus that induces many a man to toil till he can purchase a little home for his family; and then he has sufficient inducement to continue his toil, for he is improving his own soil. I was just reading of the surprise of an English traveller, while journeying through a western forest, to see a man at work setting an orchard among the stumps. But here is the secret. That man owned the land. He was no tenant of some exacting landlord. He was the lord of the land he was thus improving, himself. It is the true secret of why enterprise and intelligence exist to so great a degree in our new country—the inhabitants are all large or "small holders."

That this country may never, in the agricultural

portion of it, be cursed with a population of landlords and tenants, is the earnest wish of your

REVIEWER.

ROUGH NOTES BY THE WAY.—No. 7.

WHILE at Philadelphia, in July last, I improved my first opportunity to visit Mr. Wilkinson's Agricultural School, at Mount Airy, Germantown, seven miles from the above-named city. I regret that my stay could not have been more protracted at that beautiful spot in which the beauties of nature and the result of the skill of art blended, forming one of the most healthful and delightful places to be found.

The situation now occupied by Mr. W., for the purposes of his school, is that recently the home of James Gowen, Esq., whose eminence as an agriculturist, is, perhaps, unsurpassed in this country. The buildings are substantial, and sufficiently spacious for the accommodation of 60 or 80 pupils. The grounds adjacent to the house are beautifully decorated by numerous varieties of exotic and indigenous fruit and ornamental trees, shrubs, and flowers, with a goodly number of choice and healthy green-house plants, tastefully arranged. The farm, which contains about 70 acres of beautiful land, is in a fine state of cultivation, and the growing and recently-harvested crops, that were about as various as the climate will admit of, reflected most favorably for the skill and industry of Mr. W. and his pupils.

Among other crops, my attention was particularly attracted by the luxuriance as well as the cleanliness of the culture, of about two acres of orange carrots, which Mr. W. informed me he designed for his horses and cows during the winter. They were sown in drills by one of Messrs. Ruggles, Nourse and Mason's drill barrows, about 20 inches apart, and 6 inches asunder in the drills. The planting was done by the pupils, and with few exceptions, (which were rather thin, in consequence of the drill barrow not having been properly regulated, at first,) the drills were as uniform in width, as straight, and as beautifully distributed in rows, as any field crop I ever saw. There was also on the place, a field of about five acres of very thrifty potatoes, in which there was scarcely a weed to be seen. [For an account of this crop and the mode of cultivation, see p. 55 of the current volume.]

Adjacent to the potatoes, was a piece of land, which had been underdrained by Mr. W. for the benefit of his pupils. This was very beautifully tilled, and sown with white Dutch turnips, giving a flattering promise of a great crop. [At p. 316, vol. vii., of the Agriculturist, there will be seen a description of the mode of underdraining there practiced.] The perfectly-reclaimed and dry appearance of the land, as seen in his turnip field, is convincing evidence of the correctness and utility of his method.

By the system practised by Mr. Wilkinson, a large portion of the farm is devoted to grain and roots; still, a large stock of cattle, horses, and swine are kept, by means of the partial-soiling system; lucern and gourd-seed corn, sown broadcast, being the crops chiefly used for that purpose.

An immense amount of manure is made on the

place, by carefully composting that of the stables and pigsty, with the gleanings from the truck and flower gardens, muck and alluvial soils from the swamp, charcoal, gypsum, &c., &c. The gypsum is also freely used in the stables. The compost is applied for the farm crops in a state of partial decomposition, and incorporated with the soil.

I was much pleased with the mode here practised of keeping the farm profit and loss account. This is done by making an accurate survey and map of the farm, with the divisions, location of the buildings, &c., on a scale sufficiently large to admit of the following minutiae, being intelligibly written in each enclosure, viz:—The number of the lot; the crop grown upon it; when put in; when harvested; the value of, and amount of, the manure applied; the entire expense of cultivation; and the net profit, with references or notes and remarks on the margin. This map is to be copied annually, and thus constitutes a complete farm account, for every year, the economy, convenience, and utility of which is very obvious; besides, these maps will form a most interesting record to transmit to posterity, from generation to generation, and a comparison of these tables, would make very interesting employment for the superannuated farmer.

Mr. Wilkinson, the principal of this establishment, seems well qualified for the station, and evidently feels the great responsibility devolving upon him. By his patient, kind, and sociable intercourse with his pupils, he appears to have secured their full confidence, as well as their warm affection, and while they treat him with due respect, they are apparently without restraint in his presence, and to all appearances are cheerful and happy.

Mr. W. is in the daily habit of assembling with his pupils immediately after dinner, in the lecture room, where they discuss all matters pertaining to the farm, by which, they not only enjoy the advantage of the experience of their preceptor, and each other, but by this means they become accustomed to speaking in public, a desirable accomplishment which few practical farmers possess. The students, also, have the advantage of thorough scientific instruction, as well as elementary knowledge, in connection with the farm course, which is founded upon the only efficient and true system; that is, they participate in every branch of agricultural labor and are taught to use, regulate properly, and keep in order, all the implements, vehicles, and machines of the farm.

That the length of this article may not exclude other important matter, I must leave many interesting things relative to this establishment without comment, and conclude by wishing the fullest success to this and all other similar institutions. I will only add, that I would heartily recommend parents, who have sons to educate, to visit this school, and see for themselves the facilities which students here enjoy for acquiring moral habits, physical strength, and a thorough practical and scientific knowledge of the foundation of, and keystone to, all other arts.

SAMUEL ALLEN.

New York, February 1st, 1849.

CAUTION.

THE use of lime without manure
Will only make the farmer poor.

From the German.

GRASSES, MEADOWS, AND PASTURES.—No 3.

The Sweet-scented Vernal Grass, (*Anthoxanthum odoratum*,) Fig. 28, is an early and valuable grass, which exhales that delightful perfume so characteristic of much of the eastern meadow hay. It is also a late as well as an early grass, and luxuriates in a dry, sandy loam. It affords two, and sometimes three crops in a season.

Poa alpina, Fig. 29, *Aira caspitosa*, Fig. 30, *Briza media*, Fig. 31, and the *Agrostis humilis*, and *Agrostis vulgaris*, as well as the *hard and sheep's fescue*, before noticed, are all sweet, pasture grasses, and excellent for lawns. These, and a large variety of other dwarf grasses, abound on our uncultivated uplands, mountains, and woodlands, creeping in through the



FIG. 28.



FIG. 29.

FIG. 30.

FIG. 31.

neglect, rather than the care of the husbandman. They yield a nutritive herbage for the herds and flocks, and an almost perennial verdure to the landscape, equally grateful to the rustic eye, and a cultivated taste.

Ribbon Grass, (*Phalaris americana*,) is the beautiful striped grass, occasionally used for garden borders. It has been highly recommended for swamps, to which, if transplanted, it is alleged that it will supersede all other grasses, and afford a fine quality of hay, of an appearance quite different from the upland growth. The writer tried several experiments, both with the seed and roots, on a clay marsh, but without success. Its proper pabulum is probably a rich carbonaceous soil, such as is found in an alluvial swamp, or peat bed.

Gama Grass, (*Tripsacum dactyloides*,) is found growing spontaneously on a naked sand beach in Stratford, Ct., and in other places on our eastern coasts. It has occasionally been much lauded at the north, where it is a coarse, rough grass; and it seems generally, to be little prized at the south. But we have recently, the opinion of some intelligent men in that section, that it is much relished by stock; as they frequently eat it so close to the ground, as soon to extirpate it. We should conclude, therefore, that it is a valuable grass for some sections of the United States, where the soil and locality are suited to it.

Egyptian or Syrian Millet or Guinea Grass, (Sorghum halepense,) known by various other names, is a native of our southern states, in many of its varieties, although it has been imported from abroad. I have seen it growing in profusion on Long Island, Charleston, S. C., and in Southern Mississippi. It grows like a very slender, miniature cornstalk, from four to six feet high, with a strong stem, and large grassy leaf, and bears a stately seed stalk, tufted with flowerets, which, however, so far as they have come within my knowledge, do not bear a fully-ripened seed in this country. That imported from the Mediterranean, grows with great vigor. Its roots are tuberous, large and prolific; and equally with the rich, succulent leaves and stalks, when the latter are young, they are at all times greedily devoured by stock. Dr. Bachman, of South Carolina, considers it a stock-sustaining plant, far superior to any other grown at the south. It is difficult to remove when once embedded in the soil, and the cotton planters look upon its introduction into their cultivated fields, with unmingled apprehension.

[It is to be understood that this is not the *Guinea grass* of Cuba and Jamaica, (*Panicum jumentorum*), which was introduced into the latter island, in 1774, from the following circumstance:—A cage of African birds had been presented to Chief Justice Ellis, with which was sent a small bag of their native food, the wild grass seed of the coast of Guinea. The birds died and the seeds were carelessly thrown into a hedge, where they quickly grew and spread; and from the eagerness of the cattle to reach it, attention was called to its vegetation, having since become one of the most valuable productions of the West Indies.—Eds.]

Bermuda Grass, (*Cynodon dactylon*).—This is considered by Mr. Spalding, an experienced planter in Georgia, who examined them both critically, from specimens which he raised together, as the *Doubt grass of India*, so much commended by Sir William Jones, and so highly prized by the Bramins. It is by the agriculturists of the south, deemed an invaluable grass, yielding four or five tons per acre on good meadow. Mr. Affleck, of Mississippi, states the yield of three cuttings, at five to six tons per acre on common meadow, that it loses only 50 per cent. of its weight in drying, and is consequently the hardest grass to cut. It is one of the most nutritive grasses known, and is of great value to the river planter. It loves a warm and moist, but not wet soil.

Crab Grass is considered, (unjustly as I think,) a pest by the cotton planters, for equally, perhaps, with the Bermuda, it is a rich and nutritious grass. It comes up after the crops are laid by, (received their last plowing and hoeing,) and grows rapidly as the cotton or corn matures and dries; and by the time they are ready to remove from the field, has frequently attained so large a growth, as to afford a crop of hay. Even considered as a fertilizer alone, it is a valuable assistant to the planter. When the corn or cotton is young, the ground requires working to an extent sufficient to keep down this grass, solely with a reference to preserving its porosity—its dew-condensing, dew-absorbing properties. When the crop is sufficiently matured to need no further care, the grass shoots forward rap-

idly, and absorbs largely from the floating elements of the air.

Winter Grass is known on the low, moist, fertile soils of Mississippi and the adjoining states. It springs up in the autumn, grows all winter, and seeds in the spring. It fattens all animals that feed upon it.

Muskeet Grass, found growing on the plains of Mexico and Texas, is considered one of the best of the indigenous grasses. I have seen it growing on the plantations of Louisiana, where it has been successfully transplanted.

Gramma is held in the highest estimation by the Mexicans. It attains a medium height, and is deemed the most nutritious of the natural grasses in our southwestern, frontier prairies, in California, and parts of Mexico. It grows on dry, hard, gravelly soils, on side hills, the swells of the prairies, and the gentle elevations in the valleys. The principal value is found in the numerous seeds, which are retained in the pods with great tenacity, long after they are ripe, serving as a luxurious food for all the graminivorous beasts and fowls of the regions where it is known.

Buffalo Grass is found intermixed with the grama, and seldom grows more than a few inches in height. It forms a thick, soft herbage, on which the traveller walks with ease, and reposes, when weary, with delight. It yields a rich sustenance to countless herds of wild horses and cattle, buffaloes, deer, and antelopes.

Tornillo, or Screw Grass.—This grows in great profusion in the region of the two last grasses; but is most conspicuous on the table lands, and between the rivers and creeks, the tall grass of the lower levels, giving place to it as the surface ascends. It is taller than the buffalo, with broader leaves. It bears a seed stock eight or ten inches high, surrounded by a spiral-shaped pod, an inch long and one fourth of an inch in diameter, which contains ten or twelve roundish, flattened seeds. The herbage is not relished by animals, but the ripened seeds yield a food of great richness, on which innumerable herds of wild cattle fatten for slaughter. Horses, mules, and most other animals and fowls subsist upon it.

The Prairie Grasses abound in the western prairies, and are of great variety, according to the latitude and circumstances under which they are found. They afford large supplies of nutritive food both as pasturage and hay. They possess different merits for stock, but as a general rule, they are coarse when they have reached maturity, and are easily injured by the early frosts of autumn. Some of the leguminosæ, or wild pea vines, which are frequently found among them, yield the richest herbage. We are not aware that any of these grasses have been cultivated with success.

Pony Grass may be mentioned, as one of the best of the winter grasses in our western states. It grows in close, thick, elevated tufts, and continues green all winter. It is easily detected under the snow by animals, from the little hommocks which every where indent its surface.

Wild Rice, which lines the still, shallow waters of the streams and small inland lakes of many of the western states, affords a palatable forage when green, or if early cut and dried; and the grain,

which is produced in great profusion, is an exhaustless store to the Indians, who push into the thickest of it, and bending over the ripe heads, with two or three strokes of the paddle on the dry stalks, rattle the grain into their light canoes. The wild ducks, geese, and swans, which yet frequent those waters, fatten on this grain throughout the fall and winter.

Tussac Grass, (*Dactylis cespitosa*), is a luxuriant, salt-marsh grass, growing in large tufts, and is found in perfection on its native soil, in the Falkland Islands, between 51° south, and about 8° east of the straits of Magellan. Captain Ross describes it, as “the gold and glory of those islands. Every animal feeds upon it with avidity, and fattens in a short time. The blades are about six feet long, and from 200 to 300 shoots spring from a single plant. About four inches of the root eats like the mountain cabbage. It loves a rank, wet, pea bog, with the sea spray over it.” Governor Hood, of those islands says: “to cultivate the tussac, I would recommend that the seed be sown in patches, just below the surface of the ground, and at distances of about two feet apart, and afterwards weeded out, as it grows very luxuriantly, and to the height of six or seven feet. It should not be grazed, but reaped or cut in bundles. If cut, it quickly shoots up, but is injured by grazing, particularly by pigs, which tear it up to get at the sweet, nutty root.”

Arundo Grass (*Arundo alopecurus*).—Mr. Hooker, from the same island says: “another grass, however, far more abundant and universally distributed over the whole country, scarcely yields in its nutritious qualities to the tussac; I mean the *Arundo alopecurus*, which covers every peat bog with a dense and rich clothing of green in summer, and a pale, yellow, good hay in the winter season. This hay, though formed by nature without being mown and dried, keeps those cattle which have not access to the former grass in excellent condition. No bog, however rank, seems too bad for this plant to luxuriate in; and as we remarked during our survey of Port William, although the soil on the quartz districts was very unpropitious in many good grasses, which flourish on the clay slate, and generally speaking, of the worst description, still the *arundo* did not appear to feel the change; nor did the cattle fail to eat down large tracts of this pasturage.”

I have purposely devoted several pages to the description of such new grasses as are indigenous to this continent, and which, by their superior value in their native localities, would seem to commend themselves to a thorough trial in similar situations elsewhere. There are doubtless, others of great merit, which experiment hereafter, will demonstrate to be of singular benefit to the American farmer. Most of these yet remain to be classified by the botanist; and what is of much more utility, to be thoroughly tested by the crucibles of intelligent chemists and the experiments of enlightened agriculturists, to determine their absolute and relative value for economical purposes. The subject of grasses has been but slightly investigated in this country, in comparison with its immense importance; and for this reason, with few exceptions, we are at a loss for the true comparative value, of the

foreign and indigenous grasses, to American husbandry.

As an instance of the want of a well-established character to some of our most generally cultivated grasses, we quote the opinions of Dr. Muhlenburg, of Pa., who has written ably on the subject; and the late John Taylor, a distinguished agriculturist of Virginia, both of whom place the tall oat grass, (*Avena elatior*), at the head of the grasses; yet, from the investigations made at Woburn, it appears among the poorest in the amount of nutritive matter yielded per acre. Dr. Darlington, also of Pennsylvania, does not mention it, but gives the following, as comprehending “those species which are considered of chief value in our meadows and pastures, naming them in what I consider the order of their excellence: 1. Meadow or green grass (*Poa pratensis*). 2. Timothy (*Phleum pratense*). 3. Orchard grass (*Dactylus glomerata*). 4. Meadow fescue (*Festuca pratensis*). 5. Blue grass (*Poa compressa*). 6. Ray grass (*Lolium perenne*). 7. Red top (*Agrostis vulgaris*). 8. Sweet-scented vernal grass (*Anthoxanthum odoratum*).”

The *Sweet-Scented, Soft Grass*, or *Holy Grass*, (*Holcus odoratus*), according to the Woburn table, is next to the tall fescue and Timothy in point of nutritive matter to the acre, when cut in seed, and it is placed as far in advance of all others, in the value of its aftermath; yet scarcely any other authority mentions it with commendation.—*Allen's American Farm Book*.

AGRICULTURAL TOUR SOUTH AND WEST.—NO. 4.

BETWEEN Woodville and Bayou Sarah, 24 miles, is a railroad that would be of vast benefit to the cotton planters, if the company had learned the secret connected with low freights. Short crops and low prices of cotton, combined with the fact of several planters in the hill lands between Woodville and Bayou Sarah, having been very successful in the cultivation of cane the past season or two, is creating considerable excitement about making sugar in a region that it would have been considered only a few years since, madness to talk about. It is said that Dr. Wilcox, eight miles from Bayou Sarah, makes this year 400 hhd. of sugar upon a place that has not lately yielded over 150 bales of cotton; and that his neighbor, Mr. Fort, is making two hogsheads to the acre from land that only afforded half a bale. [It is to be remembered that a hhd. of sugar is 1,000 lbs. and a bale of cotton is 400 lbs.] It is also known that Mr. Ruffin Barrow, Dr. Perkins, and others have been successful in making sugar upon hill lands. As not one cotton planter in a hundred is making simple interest upon his investments, it is no wonder that every successful effort to cultivate sugar cane further north, and away from the immediate alluvion of the river, where it was long thought it could only be cultivated, should create considerable excitement among the upland cotton planters. And although the present low price of sugar does not offer a golden harvest equal to California “placers,” yet it is an ascertained fact that brown sugars, at three cents, produce a better result than cotton at six. And it is very evident that either owing to the seasons or acclimatization, the culture is continually extending

northward, and I have no doubt that most of the cotton plantations below Natchez, will in a few years more afford twice as much sugar in value as they now do cotton. True, the amount of money required to make the change is great—of that hereafter. On the evening I left Woodville, I spent the night upon one of the oldest *American* plantations in this part of Louisiana, owned by General McAustin, an Irishman, but has resided upon this place, Springfield, one mile south of the state line on the road from Woodville to Jackson, La., upwards of forty-five years, and has made a cotton crop every year, though some of the earliest ones were ginned by his own and one negro's fingers, while sitting over a log-cabin fire of a winter evening. But, in 1809, he sold a crop of considerable size at 32½ cents a pound! This "gave me a lift," remarked the General, "by which I was enabled to begin to go ahead." He is now a hale old man of 77, was a great friend of General Jackson, but a small one to some of those that have since pretended to follow the steps of that "illustrious predecessor." His reminiscences of the early settlement of this country are highly interesting, but space will not permit me to insert them here. Speaking of coco grass, he says he has seen it grow up through a pile of cotton seed, several feet thick, that was purposely put upon a patch of it to smother it. He says that "old field, black seed grass," will crowd out Bermuda grass in two or three years. The land here, though still hilly, is far less so than that I have passed over, and much better watered with springs and creeks.

General M. says he has kept sheep many years, and that they do well. The wool, originally fine, continues the same, only shorter. He has some very good horses of his own raising; having in his younger days been considerably engaged in rearing—he loves a good horse. He cultivates at the home plantation, (having two others,) about 1,000 acres, with sixty hands, and averages 300 bales of cotton—5 bales to the hand, which averages perhaps \$20 the bale. This is certainly not a very profitable income upon the value of land, stock, machinery, slaves, &c., particularly, as upon a large, old plantation like this, not more than one half of the negroes are ever counted as field hands, and estimating the plantation at the very low figure of \$50,000 and one half of the proceeds of the crop is at once taken up for interest at 6 per cent. Then there is the wages of one or more overseers; a large bill for new implements, bagging, rope, &c., and half a pound of pork to fill every negro's mouth, every day he lives, besides the immense clothing bill and family expenses to be paid out of the proceeds of the annual crops. It may be argued that while cotton is so low, at least, the full supply of meat ought to be raised on the place. So it had if it can. But with all the studied economy and forethought of such men as Dr. Phillips, it cannot always be done, and with men of far less calculation, the matter presents a host of difficulties unknown to northern farmers. "Well, if you can't raise pork, why not feed your negroes on beef," exclaims the northerner. Simply because it would raise a revolt, sooner than all the whip lashes ever braided in Massachusetts. Fat pork and corn bread is the natural aliment of a negro. Deprive

him of these and he is miserable. Give him his regular allowance, (3½ lbs. clear pork, and 1½ pecks corn meal per week,) and the negro enjoys more of "heaven on earth," than falls to the lot of any other class of human beings within my knowledge.

On the day I left General McAustin's, I dined with Wm. G. Johnson, whom many of my readers will recognize as an old and very intelligent cotton planter. Finding he could not continue to clothe and feed a large number of negroes, many of whom had grown old with their master, he has abandoned cotton altogether and suffered a large and once fine plantation to fall to decay, and wear the weeds of desolation; using it only as a stock farm, and home for himself and old servants, while he has put all the able hands upon a sugar plantation, owned in company with his son-in-law, Wm. B. Walker, at Bayou Mauchac. There are several other abandoned plantations in Mr. Johnson's neighborhood, where buildings and fences are tumbling in ruins, and beautiful gardens grown up in briars and bushes, and large fields covered with broom sedge, the whole making a scene of desolation that is painful to pass by. And these things are not only here—they are more or less to be seen all through the cotton region. For the truth is, cotton cannot be grown at the present prices. Mr. Johnson thinks that sugar can be made at 3 cts. a pound better than cotton at six; and that anywhere within the limits of sugar growing, the same hands and lands, will average, one year with another, one hogshhead of sugar for every bale of cotton.

A few miles south of Jackson, on the Baton Rouge road, I crossed the Clinton and Port-Hudson Railroad, in a state of dilapidation. Why is it that no enterprise of this kind succeeds in this region? Dining with General Carter, I learned that his brother, on the adjoining place, made this year from four and a quarter acres of cane, (nearly one fourth of an acre of which was waste ground, in consequence of a pond,) seventeen and two thirds hogshheads of sugar. The character of the soil is clayey upland, rather flat; original growth, oak, magnolia, gum, poplar, &c., and has been cleared and in cotton about twelve years, this being the first crop of cane. Another neighbor made 42 hhd's. from 12½ acres—certainly very encouraging to hill-land planters, and I hope the same success may continue to attend them. Though it is contended by many that these old cotton plantations, after some of the first crops of cane, will "run out." But I cannot believe that a soil almost bottomless, if properly cultivated, can ever fail. And I will show in some of my subsequent letters, by indisputable facts, that the subsoil plow is all that is needed to renovate land that has "run out," anywhere upon this vast and inexhaustible bed of alluvion.

Immediately after leaving General Carter's, we enter "the plains," a very level tract of land some dozen miles across, of a whitish clay, with frequent openings, called "prairie," however unlike they look to those I live upon, and judging from the appearance of the few scattered settlements along the road, the land affords a poor return for the cultivation bestowed upon it. Though I have no doubt that all this great uncultivated tract, lying along this road, much of it still in heavy forest, mostly

beech, with magnolia, oak, poplar, &c., will some day be found to be most valuable land, when cleared and well underdrained; for water is the great detriment to cultivation on much of the soil of this region. I passed the night with Dr. Scott, who lives on the river bank, six miles above Baton Rouge. He is a gentleman of education and intelligence, but who has got such an inveterate habit of looking on the "black side" of everything, that he sees nothing but darkness in the path ahead. He says that it is idle for hill planters to think of going into the sugar business; for most of the sugar planters of the state are bound to fail. He has 40 acres of cane which he wishes was out of the ground again. He won't build a sugar house because he would have to become tributary to the north, and the state now imports more than she sells, and unless she will go to manufacturing right soon, and in good earnest, she must become bankrupt, &c. He complains that sugar makers are ruining the country by their enormous consumption of wood; yet, the sale of wood is the principal business of this man; and at a price, (\$2.50 a cord,) that he would not realize if it were not for the great consumption of the sugar works.

December 14th, I visited Baton Rouge, and almost as a matter of course, General Taylor, whom, if I had found on a farm, instead of in a garrison, I should have thought a plain and very sensible old farmer, who loved to talk about the business of cultivation better than anything else. From the conversation I had with him, I think that he is aware that he has got a weedy row to hoe, but that he will dig it through or die, and woe to the weeds that come in the way of his old hoe. I also made the acquaintance of T. B. Thorpe, from whom I received letters of introduction to several of the editorial family of New Orleans, that were afterwards of great service to me. I cannot omit here the kind remembrance of Mrs. Thorpe, than whom I have not met with a more pleasant acquaintance on my list. While in company with Mrs. Thorpe, the conversation turned upon an article lately published, in regard to a want of proper secretiveness in the Muscovy ducks about their nests. She says that all her experience goes to the contrary; that her ducks have always been unusually secretive, and thinks that is their general character in this region. I also partook of the hospitalities and kind offices of John R. Dufrocq, editor of the Baton Rouge Gazette, Mayor of the city, &c., &c., whom his thousands of Michigan and Canada friends will delight to hear is the same highminded nature's nobleman he ever was. By his politeness and attention, and in his company, I visited the penitentiary, now being transferred by the present contractors, McHatton, Pratt & Co., into a great cotton and woollen manufactory. There are at present about 140 convicts, who are well fed, clothed, and lodged in solitary cells. They are now making 900 yards of an excellent quality of stout cotton, well worthy the attention of planters. There are a few shoemakers, tailors, and blacksmiths, besides carrying on a great amount of brick making; for the individuals having the contract for the splendid state house now building here. They get \$12.50 a thousand for the bricks laid in the wall. I saw in the penitentiary, sixteen of the best mules I ever

saw together. One was seventeen hands high and well formed; though not so remarkably so as one not quite so large, and valued at \$250—none of them being worth less than \$150—the present value of the plantation mules being now from \$80 to \$125. Baton Rouge may be said to be the northern limit of oranges, and I saw here several trees twenty or twenty-five feet high, loaded with fruit, the most beautiful of all others, that grow upon trees. Here, at this date, many garden vegetables are in quite perfection, and roses fill the air with fragrant sweets. Mr. Dufrocq informs me that the misletoe is killing the live oaks, in this town; the streets of which are ornamented with a great many of these most beautiful of all the family of oaks. Query—is that the cause? This town, now, or rather in 1850, is to be the state capital, contains between 2,000 or 3,000 inhabitants, on a very handsome site, fifty feet above high water, although just at present the water well mixed with loamy earth is pretty high all over town. The state house is to be one of the finest on the Mississippi. It stands fronting the river as well as three streets. It will cost, when complete, nearly half a million of dollars.

Immediately on leaving the town of Baton Rouge, commences the great levee of the Mississippi, a dam of earth extending to the mouth, and varying from one to ten feet high, by which man hath said to the mighty stream, "thus far shalt thou flow and no farther;" and by which only can the great sugar plantations of Louisiana be cultivated. But, before entering upon these, let us have another month's rest; for I have a great deal to write, some of which, I have every confidence in my ability to make interesting to my readers. That the present chapter is not more so, I am sure that they will excuse me when I tell them that it was written during my confinement to my room with an attack of the epidemic of the present winter, that has spread mourning along the banks of the Mississippi, and had it not been for the kindness of one of whom I shall speak by-and-by in commensurate terms, I should not now have been in a condition to say that I still remain your old friend

SOLON ROBINSON.

Point Celeste, below New Orleans, Jan. 12th, 1849.

ROTATION OF CROPS IN MASSACHUSETTS.—At a late agricultural meeting in Boston, Hon. Mr. Brooks, of Princeton, stated that, from a series of experiments made by him, he had been led to adopt the following system in the rotation of crops:—1st, potatoes; 2d, Indian corn; 3d, wheat; 4th, grass, eight years. His potatoes averaged 225 bushels per acre; his corn, 45 bushels; his wheat, 20 bushels: and his hay a ton and a half per acre.

It will be seen at p. 82, of our sixth volume, by a communication from John Brown, 2nd, of Long Island, Lake Winnipissiogee, that, by a similar rotation, he raised 300 bushels of potatoes per acre; 136 bushels of shelled corn; and from 30 to 35 bushels of wheat.

SOLUTION, among chemists, is the complete union of a solid substance with a fluid so that the solid entirely melts and disappears, as common salt dissolved in water.

COL. RANDALL'S MERINO SHEEP.

WE have the pleasure of giving our readers the following cuts of a Merino buck and ewe, bred and owned by Col. H. S. Randall, of Cortland village, New York. He has devoted much attention to the rearing of fine sheep for several years past, and these portraits are considered fair specimens of his flock. Col. R.'s sheep are said to be of good medium size, compact and fine of form, and of great weight for their inches—characteristics, we are free to confess, we generally prefer in all animals. Another thing, his flock is not so throaty as Merinos were formerly bred, as he considers throatiness objectionable. He originally had a few sheep with more or less black gum on the ends of their wool, but his good sense and fine taste soon convinced him that this should be avoided, and he immediately discarded all such from his premises. The wool, his flock now yields, though oily, (as all choice Merino should be,) is destitute of concrete gum, either within or on the extremities of the fleece; and yet it is sufficiently dense to shed the rain without the aid of gum. The wool opens white and lustrous, on a mellow, rose-colored skin, and is of the highest quality known in market as Merino. The fleeces, also, are quite even, and *entirely destitute of hair* on the thighs and dewlap. Some consider these small matters, but we think them of great importance, and we trust that the good example of Col. Randall will be followed by other flock masters in their breeding. We understand his sheep are pure descendants

of the early importations by Messrs. Humphrey, Jarvis, Crowningshield, &c. For pedigrees and a more particular account of the origin of this fine flock, see volume third of the *Agriculturist*, p. 367.

The buck, Fig. 32, our readers will observe, has a slightly lank appearance; but it must be recollected that it is a portrait of a *young* animal, which, as it grows older will become heavier and more compact in form. The ewe, Fig. 33, is very fine, and breeders will do well to take her portrait into consideration in giving shape to their flocks. Col. R. informs us that she sheared 7 lbs. 10 oz. of wool, well washed on her back, in a clean running stream.

Dr. Emmons, while editor of the *American Quarterly Journal of Agriculture and Science*, gave a cut of the measurements of samples of wool taken

from various flocks. That from a prize ram of Col. Randall, the fleece of which weighed 10 lbs. well washed, appears to rank favorably for fineness with much of our country-bred Saxon wool.

We now quote from Col. Randall's excellent work on "Sheep Husbandry in the South," which we briefly noticed at page 100 of our March number:—

"I have bred Merino sheep for a number of years, and latterly in considerable numbers; and in no case have my grown sheep averaged less than 5 lbs. of well-washed wool per annum. * * * In 1846, I sold for 35 cents per pound; in 1845, for 33½ cents; in 1844, for 48 cents; in 1843, for 33½ cents; in 1842, for 36 cents, and so on. To give more precise data, I select the following statement of the products of a flock on which I drew the first premium offered by the New-York State Agricultural Society, for 'the best managed flock of sheep,' in 1844:—

THE PROPERTY OF COL. H. S. RANDALL, CORTLAND VILLAGE, N. Y.

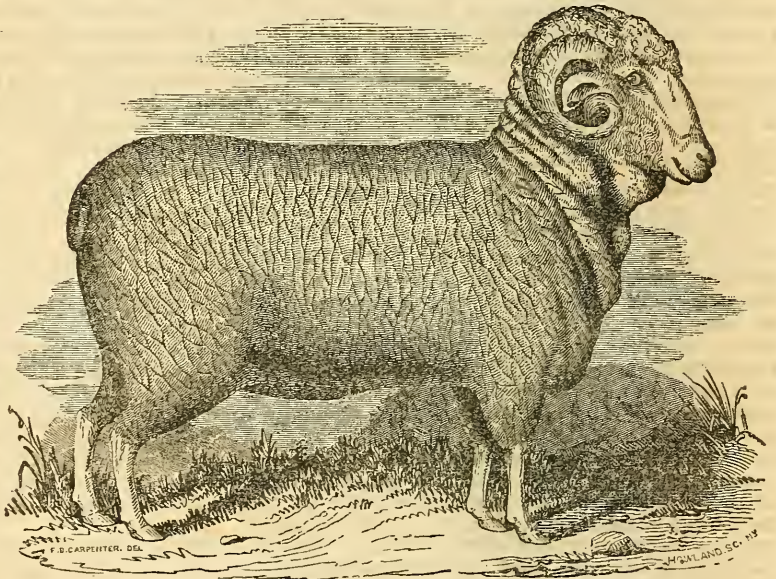


FIG. 32. MERINO RAM, DEFIANCE.

'In the winter of 1843-4, I wintered in a separate flock fifty-one ewes over one year old; two ewe lambs, two rams, one of them one, and one of them two years old. Of the ewes over one year old, twenty-eight were full-blood Merinos; twenty-three were half-blood Merinos and half-blood Southdowns; the two ewe lambs were three-fourth-blood Merino and one-fourth-blood Southdown; and the two rams were full-blood Merinos. The flock were kept as follows through the winter:—They were fed hay morning and night, and were, as a general rule, required to eat it up clean. At noon, the flock were daily fed three bundles of oats and barley, (which had grown mixed, say three parts oats and one part barley,) until the 25th of December—after which they received four bundles of oats. The grain was light and shrunken. They received no

hay at noon during the winter, and usually consumed all the straw of the grain fed them. They had a good shelter, and access to pure water at all times. From this flock, I raised fifty-three lambs. The full-blood Merinos, including two rams, and the two three-fourth-blood lambs, (in all thirty-two,) sheared one hundred and eighty-six pounds and four ounces of washed wool, which I sold at forty-eight cents per pound. Four of the full-bloods had two years' fleeces on. The half-blood Merinos and half-blood Southdowns, (twenty-three,) sheared eight and one half pounds of washed wool, seventy-one pounds of which I sold at thirty-eight cents per pound. During the summer of 1844, the flock were kept in good ordinary pasture, and salted once a week.—[Transactions of N. Y. State Agricultural Society, 1844.]

"Thus, the Merino fleeces averaged 5 lbs. 13³/₈ oz. and sold for \$ 2.79³/₈ each; and the grades between Merino and Southdown averaged 3 lbs. 8 oz.

THE PROPERTY OF COL. H. S. RANDALL, CORTLAND VILLAGE, N. Y.

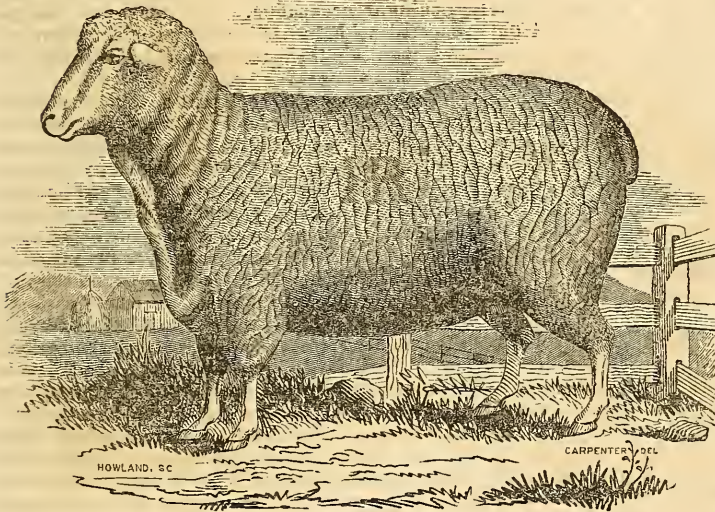


FIG. 33. MERINO EWE.

to the fleece, and sold for \$1.53 each. It will be observed that four of the full-bloods, (ewes,) had two-year fleeces on. A two-year fleece will not weigh so much as two single year's fleeces from the same sheep. On the average, it will weigh about three quarters as much. On the other hand, the lot included two three-quarter-blood lamb fleeces, which would fall below the average weight of the others, and a portion of the flock were yearlings and two-year-olds. The Merino never attains its maximum weight of fleece before three years old, and ordinarily not until four, and therefore the aggregate weight of wool of the 32 sheep, given above, does not, to say the least of it, give too favorable a view of the product of sheep of this quality. This is proved by the fact that my entire flock of full-bloods sheared about three twentieths of an ounce over six pounds each, the succeeding year."

QUERIES IN REGARD TO THE WATER RAM.

THE public are desirous of more authentic information on the comparative quantities of water raised and wasted in the use of the water ram. The principle of its action is one of the most simple in the science of hydraulics; yet, in its application, it is subject to so much variation from friction and resistance, owing to the relative sizes, lengths, and position of the pipes, as well as from other circumstances connected with the machine, that it is impossible to state, in many cases propounded us, how much water out of a given quantity may be wasted or how much saved. We would therefore, respectfully solicit from any and all of our intelligent readers, who have these water rams in use, answers to the following questions, in order to construct a reliable table for public reference, as well as for our own use:—

1. What is the perpendicular height of your water fall, in feet, above the bottom of the sole of the ram?

2. Out of a given quantity of water used per minute, how many wine gallons are wasted and how many elevated or saved?

3. How many feet higher than the water above the dam is the water raised?

4. What distance, in feet or rods, is the water conveyed by pipes from the ram to your house, or place of discharge?

5. Are there any short turns or angles in the pipe, and how many, between the ram and your house?

6. What is the No. of the ram, and the name of the inventor or manufacturer?

7. What is the length, in feet, and the inner diameter, in inches, of the drive or supply pipe?

8. How many feet or inches below the surface of the water above the dam does the drive pipe receive its supply?

9. What is the inner diameter, in inches, of the pipe conducting the water to your house?

In order to determine the quantity of water wasted and saved, we would recommend that two observers, one at the house and the other at the ram, by a signal previously agreed upon, commence collecting the water, in one or more vessels, at the same instant, and continue the operation precisely *ten minutes*; then carefully measure the water caught at the ram, as well as that caught at the house, committing the results to paper, on the spot, as soon as measured.

If there are any other circumstances affecting the operation of the machine, or the relative quantities of water raised and wasted, please to let them be accurately noted, as well as any suggestions for their improvements.

MR. ALLEN'S AGRICULTURAL ADDRESS.

WE subjoin some extracts from the valuable address of L. F. Allen, Esq., President of the New-York State Agricultural Society, alluded to in our last number. They are important truths, strongly enforced, which we hope our readers will not fail to heed.

In speaking of the slow and hesitating advances of our state legislatures, in aiding our agricultural societies, he says: "In viewing the progress of this great measure through its first feeble efforts at existence, until its final consummation by law, and its rapid advancement since, an acknowledgment of deep gratitude is due to the liberality which has pervaded the ranks of those professions and occupations in our community not agricultural. The most formidable obstacles which the promoters of this institution have met in all their efforts, were either the determined inaction, or direct opposition of the mass of the farmers themselves. I speak this more in sorrow than in anger, that they who were to be most benefited by its results, should be the slowest in yielding it their support; while those of the learned professions, the mechanics, artisans, and merchants generally, both in and out of the legislature, and throughout the state, gave to our efforts a general and hearty concurrence. The comparatively few practical farmers whose zeal and co-operation would take no denial until success had crowned their efforts, represented, with but few exceptions, an inactive and thankless constituency at home. It is, however, most consolatory to remark, that the practical operations of this, and the county societies, have awakened a spirit of emulation and inquiry among the mass of our farmers, which, although slow in its growth, must ultimately be crowned with the most gratifying results.

"Nor is the inactivity complained of, perhaps, unnatural on the part of the agricultural class. Engaged in a retired and domestic occupation—unused to habits of professional association, of which they have not been taught the necessity, nor felt the stimulating influence, they have neglected to adopt that combined action which distinguishes the other professions, and is the mainspring to their success in the improvement which they so rapidly accomplish. But we are ascertaining that this system of association, in order to advance to any high degree of improvement also, we must effectually practice; for, it is only to the habits of inquiry and examination of whatever subject he may have in hand, that gives success to the master of any occupation whatever. Why is it the fact—and fact it is—that many of the best and most successful farmers in our country are those, who, bred to other pursuits and toiled in them to middle age—and many far beyond it—till, from inclination or necessity, they have embraced agriculture as an occupation, with a determination to succeed? It is because investigation has been the habit of their lives. They do nothing without a good and satisfactory reason for doing it. They bend every faculty of the mind to acquire success in this, as they did in their previous pursuits; and the application of the same intelligence upon the farm, that had there been exerted, produced the same results, although their early education and subse-

quent labors had kept them in profound ignorance of the simplest rules of practical agriculture. The most gratifying success has been thus accomplished, while he, who has from childhood tilled his paternal acres in obstinate and persevering ignorance of the true principles of his art, although scoring in the pride of his own fancied superiority, the more timid efforts of his thoughtful neighbor, delves on through life, a wretched and unsuccessful farmer, and, in time, leaves the world no better, so far as his own labors were concerned, than he found it; and is finally buried beneath a soil over which he plodded for three score years, and never knew a single part of its composition!

"This, though perhaps an extreme, and certainly not a flattering picture, is still a type of agricultural life, in its way, existing in every one of the United States. In what profession throughout the length and breadth of our land, is there so little progress—nay, such determined opposition to progress, as in the ranks of agriculture? I would not assert that numerous eminent examples of improvement have not existed among those of purely agricultural occupation. But they are rare as compared with men of other pursuits, when applied with all their research and intelligence, to agriculture alone.

"And it may well be inquired, why is this so? Agriculture occupies four fifths of the laboring population of the country. From the agricultural ranks have sprung many of the most illustrious names, whose services have adorned and honored their country. From its ranks, too, have, perhaps, a majority of the most successful among those engaged in the various other pursuits and occupations of life, arisen. In short, there can be no class of our population which affords so sure a basis on which to rely for an infusion into all other pursuits to the durable prosperity of a state, as the agricultural. Such is the gratifying truth; and it is to the health-giving influences of the soil itself—the free, wild air of heaven that he breathes—cheerful exercise and occupation—contentment—and the full, unrestrained enjoyment of man's first estate, bestowed by God himself, that thus constitutes in him who tills the soil, the full development of his faculties in all the admirable proportions of body and of mind, that his Creator intended. Notwithstanding all this, the question still recurs, and may be variously answered. The very ease and contentment of condition in the farmer, is one probable cause of his inactivity in improvement. The quietude of his avocations prevents that constant attrition of mind inseparable from the bustling activity of most other pursuits; and the certainty with which the soil yields its annual tribute to his labor, dispels that spirit of investigation common to classes, the result of whose labors is contingent or uncertain. Nor yet is the farmer an ignorant or a slothful man. In the great responsibilities of life—in domestic duty—in love of country—in the orderly support of the institutions of the land—in stern watchfulness over the acts of those he has placed in authority, and in that exalted patriotism which is ever ready for the heaviest sacrifice to the benefit of his race, he, as a class, stands without a rival. And yet, possessed of all these qualities, and enjoying all

these advantages, the absence of the spirit of association, leaves him, in effect, the least benefitted at the hands of those he elects to legislate for him, of all others.

"Who invents, improves, and perfects the plow, and all the nameless implements which alleviate his toil and accelerate his labor? Who analyzes his soils, instructs him their various qualities, and teaches him how to mix and manure them for the most profitable cultivation? The mechanic—the chemist. Who, ascertaining that his seeds are imperfect and unprofitable, searches foreign lands for new or better ones, and introduces them to his notice? The commercial adventurer, or the travelled man of inquiry and observation. Who, on comparing the inferior domestic animals which he propagates, and in whose growth and fattening, he loses half his toil, and the food they consume, sends abroad, regardless of expense, and introduces the best breeds of horses, cattle, sheep, and swine for his benefit? In nine cases out of ten, these labors and benefactions—and their name is legion—are performed by those whose occupations have been chiefly in other channels, and whose agricultural tastes have led them into the spirit of improving it. And in how many examples have we witnessed the apathy, if not determined opposition, with which the farmer proper—or, at least, he who claimed to be one—has set his face like flint against their adoption, even after their superiority had been demonstrated beyond a question!

"So, too, with the farmers' education. They have been content that the resources and the bounty of the state, should be lavished upon the higher seats of learning, where the more aspiring of our youth should receive their benefits, not caring even to inquire whether such youth should again return among them to reflect back the knowledge thus acquired. They have failed to demand from the common treasure of the state, those necessary institutions which shall promote their own particular calling, and which every other pursuit and profession in the land has been most active to accomplish. In all this, the latter have progressed with railway speed; while the farming interest has stood still with folded arms, and done comparatively nothing; and what good has been forced upon it by others, even regarded with suspicion. It is not because we, as farmers, compared with others, are either ignorant or stupid. We only neglect to assert our rights and appropriate the share to which we are entitled in the common patronage of the state, to the benefit of our own professions. It is for us to ask—to will—to do it. We hold the power of the state by our numbers. We can control the halls of legislation. We can so direct the laws, that we may share equal advantages in our institutions with others. We desire nothing exclusively to our own advantage; but we do deserve an equal participation in those institutions established for the common benefit of all."

Again: "The farming interest either stands back from your halls of legislation abashed, although nominally represented there by its members; or, if plucking a momentary courage, by the congregation of its numbers, on an occasion like the present, it literally shrinks away, either ashamed to

ask its rights; or, if asking, couched in such a subdued tone of humility, that the legislature scarce believe you in earnest. This, gentlemen, is your attitude before the temporary power which you create to govern you! Contrast it with the conduct of those who seek a different kind of favor at its hands. Watch the thousands of applicants for corporate and exclusive privileges, and state patronage, who have, in times past, besieged your halls of legislation. With what confidence they approach, and lay siege, to the law-making power; and how, like 'sturdy beggars,' they persevere, till, right or wrong, their importunities are granted."

Again, he says, in relation to capital and agriculture: "There is another great and responsible class among us, who have an abiding interest in the exaltation of our agriculture. I speak of the wealthy classes distributed throughout our cities, towns, and villages. Owing to the free and happy institutions we enjoy, well-directed industry, coupled with perseverance and economy, in most branches of business, is tolerably sure to succeed. But, with the success of the parent, and his consequent devotion to the labors of his office, or his counting room, that necessary vigilance and watchfulness over the proper education and employment of his child, is too often neglected. Honestly feeling the strength of his own self-reliance, he trusts that the son may follow in his own laborious and successful course. But a few years only pass, and that son has arrived at manhood, vitiated, perhaps, by adverse associations, or, if still within the path of safety, unfitted by education, or the false estimate of his position in life, to succeed in the beaten track of parental example. In a great majority of cases, capital, toilfully gathered, and safely invested, is squandered, or lost in business adventure, by the misapplication of the son, while the hopeful parent had never considered, that when he had furnished the means, he could not regulate the brains to control it; and after, perhaps, repeated trials, he withdraws him from business altogether, an unsuccessful and disappointed man; and the parent himself, if he escape the ruin of the son, is at a loss to know how he shall provide for his decent employment, or witness the wasting of his own gains, during lifetime, in an unprofitable support; for, in this country, thank God, a man must do something to make him respectable. And yet the well-meaning and laborious parent is scarcely to blame. He has looked abroad among the pursuits of the world, and finds none more generally successful, than the one he himself has occupied. But risen, perchance, from comparative poverty himself, he cannot realize that the strong incentive for exertion, which existed in his own case, is absent in the son, and, therefore, that they each look out upon the world from widely different premises."

"Nor, during all this probation of anxiety and solicitude, has it ever occurred to the father, that agriculture held out the safest mode of investment for a portion of his gains; and, if not the most rapid in accumulation of worldly goods, it was, at least, the surest pursuit for his children, in the absence of that successful tact which he himself possessed for professional, mercantile, or mechanical life. But he has, on the other hand, imbibed

the popular and mistaken notions of the day on that subject. He might, like others who fancied they had some agricultural taste, have had his own country house and farm, got up at great expense; and been pestered with worthless servants, and dishonest managers, who only pillaged and worried him; and after a brief and unsatisfactory trial, abandoned it in disgust, like hundreds of his friends and neighbors, never dreaming that his farming got on quite as well as his law or his trade would have done, with the same amount of his own personal attention! That, and the drudgery of the ordinary farmer, who tilled his own scanty acres in his immediate neighborhood, and whose association, as ignorant and degrading, he had scorned, were the only experience he had known, on which to make up his opinions; and, as a matter of course, he only knew agriculture to condemn it.

"But, had agriculture her proper institutions, where his children could have been taught its necessary education and practice, and exerted its proper influence among the pursuits of the day, how readily would he have embraced the advantages it offered to his family, and eagerly bestowed the best talents of his sons to its rewards! Thus prepared to enjoy it, how many thousands of men, rich in the acquirement of proper knowledge, and fortified in the possession of wholesome estates, would be shining examples of thrift and improvement in our midst! Ample domains, with broad cultivated fields—spreading pastures, dotted with the lively spectacle of flocks and herds—meadows, waving under the burthen of their luxuriant grasses—and graced with comfortable mansions and bending orchards—and peopled throughout the year with those who really felt the dignity of their calling, would spread along your noble rivers, and look abroad from your lofty hills, and line in beautiful relief your canals and thoroughfares—spectacles of home-bred comfort and independence, illustrative of true American character. But, instead of these, are seen the fantastic villas and ephemeral erections, which perk up in ambitious pretension on the elevated knolls of your noble Hudson, the summer abodes of 'fancy farming,' only to be abandoned after a few brief occupations in a round of *ennui-killing* pastimes, and voted—a bore. Such empty essay at agricultural life, usually ends in the squander of what would, if judiciously invested in a useful farm, have been a handsome estate, and is sold, perhaps, under the hammer, at a tithe of its cost, to some man of better sense, who pulls down the bauble, or changes it into an appearance of propriety, and appropriates the soil to useful purposes.

"It may be said that these pictures are of extreme cases. So they are. And, also, that they are subject to many proper exceptions. Very true. But they do exist, and that in far too great numbers; and scarce one of us but knows an instance of their just application. Still there is a great class left—the substantial middle class of our farmers, who require for their sons, destined to follow in their own steady course, that necessary kind of education at present unattainable in our country, and which can only be properly given in agricultural schools. The young farmer painfully

feels the want of advantages which these would confer, and the aid of which he vainly seeks elsewhere; and the question, how are we to accomplish the object, remains to be answered."

The question above suggested, is answered by recommending the establishment of agricultural schools and colleges, by liberal grants, properly guarded, from the legislature of our state, which, we hope, they will intelligently consider, wisely organize and establish, and liberally endow, in such manner, and on such principles, as will not fail to secure the long-neglected rights of our farming interests.

SOUTHERN FARMING.

AN excellent friend of ours, who is very judiciously and spiritedly improving a fine large estate of his in Georgia, after giving a good account of the fine stock, implements, and seeds we sent him, proceeds to say:—"I have looked through the *Agriculturist*, but find no mention of the probable benefit or proper application of plaster of Paris to corn.

(a)

"Would you advise me to soak my seed corn eight hours in saltpetre, then roll in plaster? (b)

"I intend to try, this season, fifty acres broken up last September with the large plow, but shall use the cultivator only in tending the crop. I think the deep close plowing among corn adopted in this region, does as much injury as good, as the plow breaks the young roots and prevents their spreading. (c)

"Can you give me a plan, and furnish me with all machinery complete for a strong, stationary horse power, to be used for a thresher and also for a corn and cob crusher? (d)

"I got no clover from 30 acres sowed last March; and of 40 acres sowed last November, only a small portion looks well now, although it came up finely. I shall try 40 acres with oats this spring, but if it fails, I will then lime and plaster the land where the clover shows above the ground." (e)

(a) Farmers at the north occasionally apply about a gill of plaster around each hill of corn, at the first or second hoeing, the same as with ashes. Some say that it is very beneficial to their crop, while others contend that it does little or no good. We know, however, that the application of plaster is sooner or later beneficial to the land, and to every kind of crop; as it is consistent with acknowledged principles that it should be so; besides, it is more advantageous to some soils and crops than to others, the light sandy or gravelly soil for instance, and the clover and other leguminous crops. But we think our correspondent would derive more benefit from his corn, from the application of wood ashes, oyster-shell lime, fish, or crushed bones, as these substances contain more of the elements necessary for the growth of corn than plaster. It is affirmed that plaster attracts ammonia and moisture from the atmosphere, as well as from rain water and snow, which would alone make its application to the soil and crop beneficial, even if it contained, (as it does,) no fertilizing property within itself. It also assists to fix the ammonia in

the manure applied to the land, and in this may act advantageously.

(b) Take 1 lb. of saltpetre, dissolve it in 6 to 8 quarts of water, and soak the seed from 8 to 24 hours as convenient; then roll in ashes or plaster, and plant. Thus prepared, corn comes up sooner, grows more vigorously, and is not so liable to be attacked by grubs or birds.

(c) In this we agree fully with the writer. If the plow be used at all, it should not run more than two inches deep, except when the corn is quite young; but we think it generally safest and best to use the cultivator. It is certainly the most expeditious operation of the two.

(d) Taplin's horse power is best for our correspondent, and this may either be stationary or movable. For cut and description, see volume seventh, p. 32 of the *Agriculturist*; also p. 40 of our catalogue.

(e) As a general rule, we think that the southern climate, except in the mountainous regions, is too hot and dry for a profitable growth of northern grasses; nevertheless, they are a subject of *fair experiment*, and we are glad to find our correspondent so persevering in testing them. We hope he will try a few acres with lime and plaster together, also alone. We are of opinion, however, it would be most beneficial to apply them in the months of November, December, January, or February; and the sooner, beginning with November, the better.

In southern grasses, there is room for great improvement; but whether this can be best effected with the foreign or native plants, we will leave to the discussion of southern farmers themselves. It is an interesting and important topic, and we invite communications from them for our columns.

ADULTERATION OF GUANO.

THE merits of guano, as a valuable fertilizer, is conclusively shown in the numerous and gross adulterations and imitations which have been perpetrated with it. As an illustration of many of these frauds, we copy a small part of the evidence given in one of the English courts, in a recent trial at Manchester, to recover money paid for a spurious lot.

"Two tons of the guano were bought at £3, (\$15,) per ton, and two tons at 44s. (\$11,) per ton. Dr. Robert A. Smith stated, that he had examined the material, and that it contained 70 per cent. of silica, a good deal of alumina, and sand. It was an ordinary sample of sand, and had not a trace of guano in it; nor was it possessed of any fertilizing qualities. On cross-examination, he stated that there was a slight trace of ammonia in the material, but that was the case with all soils. There was not more than one per cent. of excrementitious matter in it, while, in good guano, there was 95 per cent.

"James Batho testified, that he was a manufacturing chemist, and lived opposite the defendant's premises, where they carried on the business of manufacturers of manure. They carted thither refuse from starch works, spent wood from dye works, logwood, and sumach. The defendant, Holahan, was then called, who described himself as 'a guano grinder,' and said that he made guano.

A good deal of real guano was mixed with the stuff sold to the plaintiff, and there was also in it the refuse of starch works, which was considered a very fertilizing article. The refuse from starch, was a kind of *mineral powder*; but he did not know what. There was also some spent wood in the mixture, which, he was told, was very fertilizing, too. He had his receipt for making guano from Mr. Evans, of Liverpool, who has made some hundred tons for a merchant there. He put in these articles 'according to fancy.' In answer to the judge, he said, that he used ochre and spent wood to color his 'guano.'

"The learned judge, in delivering judgment, said, that there was no proof that the stuff delivered differed from the sample, and he could not, therefore, assume that it did. Still, if the goods were sold under the name of guano, and what was delivered was not guano, that would alter the case. Guano meant, he conceived, *prima facie*, a foreign substance—the excrements of birds. There was, however, it was true, a kind of compound manure, called 'British guano,' and supposing the stuff delivered to the plaintiff had turned out to be, not foreign guano, but 'British guano,' possessing a fertilizing quality almost equal to that imported, he thought the defendants would not have been liable; but, taking the evidence of Dr. Smith to be correct, that it was merely worthless stuff, and had no fertilizing qualities whatever, it became necessary to inquire whether this was sold under the name of guano, and he was of opinion that it was, and that the plaintiff was, therefore, entitled to recover £10, (\$50,) which he gave for the guano. The defendants, whether partners or not, had held themselves out as such in this transaction, and must, therefore, take the consequences. His honor, on the application of Mr. Myers, allowed the costs."

The transactions and receipts for making guano, as above given, may be useful to some of our own countrymen, who are engaged in the very laudable business of manufacturing and vending *genuine guano*, at a less price than it can be imported. We insert this article for the benefit of our unreflecting readers, if we have any such; the more considerate ones will not need it.

FROST AND SNOW AT NEW ORLEANS.

LAST night was one of the most severe that has been experienced here since March, 1833, when all the orange trees on the coast of the Mississippi were killed. The same calamity has undoubtedly befallen them now. Day before yesterday was very mild and pleasant. No fires were needed. In the night, the wind came out north, and yesterday forenoon was clear and cold. I was on board a steamer below Baton Rouge, in the afternoon. About sundown, it commenced a severe storm of rain, sleet, hail, and snow. It continued at intervals till midnight. In the morning, the decks were coated with ice, and the ground whitened with snow; the trees glittering in the sunshine, and roses and oranges all encased in ice. Oh! what a brilliant scene! But it is a scene of distress. Early corn, beans, peas, tomatoes, peppers, &c., &c., that were growing so finely, are all killed.

Since arriving in the city, I find now, (5 o'clock

in the evening,) snow and ice still upon shaded roofs and yards. It will freeze again to night. This is another calamity to this already overburthened land. The river never was known so high at this season of the year. In several places above us, the levee is broken and towns and plantations are overflowed. New Orleans is about a *little*, as yet, safe from the overflow. Many places have not six inches of levee to spare. SOLON ROBINSON.

New Orleans, Feb. 16th, 1849.

LETTERS FROM CALIFORNIA.—No. 2.

WHEN writing my last of 2d inst., I had hoped to reach the gold regions before again writing; but owing to some business, a slight indisposition will detain me here for a few days longer, and I avail myself of a moment's leisure, to forward another letter by the same messenger who takes the preceding. Although I have seen nothing of the gold country, I have heard much of it. The welkin rings with the sound of gold! gold!! gold!!! Stories are told of the findings, which a few months since would have seemed incredible, but their constant repetition, and from so many sources, would seem to leave me no choice but belief.

So far as I can learn, the gold region, thus far explored, lies nearly between lat. 38° and 45° north. Gold is found on the sandy plains, sometimes in clay, but more frequently in the alluvial soil, in the beds of rivers, in dry ravines, and in the sides of elevated hills, and probably mountains. It exists in small grains, sometimes almost as fine as dust, in minute scales, and in various larger pieces, varying from the size of half-matured, shrunken flaxseed, or grains of rye, to irregularly-diffused masses, spread through quartz or other rocks. It is said that some of these lumps have been found weighing several pounds, but none are properly authenticated as weighing over a few ounces. Many stories of wonderful success, which, at a distance, bear all the impress of established truth, have been found reduced to common-place results when traced to their sources. One of our former associates, who enjoyed the envy of our whole camp, for his reported luck of having found a lump weighing three pounds, soon after became almost an object of commiseration, when it was known that his treasure consisted of a few ounces only, the largest of which weighed less than two, and this was the result of weeks of arduous search, half the time waist deep in water, and exposed to a broiling sun. All this time, too, he was living on flour at a dollar a pound, while the other necessaries of life had to be purchased by him at equally exorbitant rates; and the poor fellow returned to San Francisco, where he has lingered for weeks with the severest attacks of intermittent and other fevers, from which, if he ever recovers, he may carry the effects with him to the grave. Many similar cases have occurred; but others may be guessed from this.

As an offset to these disheartening cases, it may be stated, that no one who has really made an intelligent effort, has failed in his search for gold—that while all have secured some, a few have succeeded in amassing considerable amounts. The veriest loafers in the streets of San Francisco, who, a short time since, had scarcely a shirt to their back, a hat to their head, and shoes to their

feet, have returned there with bags of the precious dust, for which a Girard or Astor would have endured as much as it has cost the lucky finders. Many, also, have returned without much apparent exposure or fatigue, and with no evidence of disease. So far as I can learn, the results have been, on the whole, highly favorable; and most of those engaged in gold hunting have been rewarded far beyond the ordinary pursuits of life. Will this success be realized hereafter? I will give you my views on this subject in my next. In the meantime, let me say a word or two by way of *practical remark*, to such as will be flocking here in crowds the coming season, after they have learned the success of those already here.

The contrivances now in use here, for washing gold, are of the rudest kind, consisting often of a cracked bowl, or broken pail, or any earthen or metallic vessel, light enough to carry, yet sufficiently large to hold a moderate quantity of earth containing the precious metal. Much of that washed and thrown away, is still rich in the auriferous dust, but so finely divided as to be considered by the greedy hunters, unworthy their attention. I have no doubt, should some skillful and scientific persons subject the *earth*, already partially harvested by these hasty manipulators, to the test of a well-arranged machine, they would find it far more profitable to follow, rather than precede, these pioneer hunters. Some machine may be so constructed as to pass one hundred times the quantity of dirt that can be washed by hand, and save all the minute particles which are now thrown away. It is impossible to secure all the gold by the contrivances thus far used; and it has been lately conjectured, that much of the heavy *black sand* which has been thrown away, acquires its peculiar gravity from containing a portion of the precious metal. If, to these machines, there be added a plentiful supply of pumps, lead pipe, or leather hose, shovels, picks, quicksilver retorts, the necessary carpenters' and blacksmiths' tools, abundance of proper food, clothing, and protection from the excessive heat by day, and sometimes piercing cold by night, the future gold diggers of California may reasonably hope for a fair return for their labor. * * *

San Joaquin, California Alta, Oct. 8th, 1848.

The above letter was unavoidably crowded out of our last number.—EDS.

DANGER OF USING ARSENIC AS A REMEDY FOR THE SMUT IN WHEAT.—As long ago as the year 1779, Duhamel, in his "Elements of Agriculture," noticed the employment of arsenic, by the farmers of France, for the prevention of smut; and whilst speaking of the dangers arising from its use, for this purpose, expressly states, that partridges, pigeons, &c., from eating poisoned seeds, endanger the lives of persons who use those birds as food. It would also appear that, in the ten years, from 1830 to 1840, there occurred, in France, 235 public accusations of poisoning, out of which number, 110 were against individuals connected with agricultural pursuits; and it was considered that this arose from the readiness with which they were enabled to obtain poisons, especially arsenic, for the purpose of steeping grain.

NEW FORM OF DRAINING TILES PROPOSED.

A CORRESPONDENT in a late number of the "Agricultural Gazette" proposes a new form of tiles for draining clay soils. He thinks that an oval, flattened at the bottom, the best shape, and superior to one that is circular, as requiring no wider room, conducting, in general, as much water, and standing firmer on its base. The upper parts of the drain he would have fit tightly with the sole, or bottom, and pressed firmly into the soil, so as to allow a free passage of the water, without being forced out of its place by filling in the earth. Tapering pipes, so constructed that one end fits into another, he conceives, are good for sandy soils, with the objection that the passage inside of the tube is interrupted by inequalities at the joints; but tapering tiles, lapping one over another, with soles like those denoted in Fig. 34, it is thought would obviate the difficulty, after they are once



FIG. 34. DRAINING TILES.

firmly fixed, by preventing all movements. The ends of the soles are to be made of uniform thickness and in such a manner as to form a close joint when fitted together. The lower edges of the tiles must be so formed as to slide easily under the flanges of the soles, and when laid down, the lap, or joint, should invariably occur at the middle of each sole.

HEREFORD VS. DEVON AND SHORTHORN CATTLE.

MR. KEARY has written an article for the last number of the Journal of the "Royal Agricultural Society," "On The Management of Cattle," which Mr. J. R. Smythies criticises in a late number of the *Mark-Lane Express*, as not only incorrect and incomplete, so far as Herefords are concerned, but, also, as partial to the shorthorns and Devons. He says that Mr. K. has omitted all notice of the grey Herefords, "which are considered the oldest breed of any, and by many people the best. From long experience, I am inclined to think they possess more constitution and more quality than the white-faced ones, and generally more size than the mottled-faced ones. Old Mr. Westcor, of Creslow, near Aylesbury, once said to me, at Hereford, 'This is the fiftieth October fair I have attended in this town, without missing one. I graze five hundred oxen every year, and the best beasts I have ever fed were bred by Mr. Tully, of Huntington, and Mr. Skegrue, of Stretton Court, both near Hereford. Mr. Tully's were greys, and are still known as the Huntington breed.' Another proof of the author's superficial acquaintance with Hereford cattle is, that in his enumeration of the celebrated breeders of the present day, he makes no mention of Sir Francis Lawley, who has not only decidedly the best herd of Herefords in existence, but has, I believe, the best herd in England, of any breed. He has also omitted the name of Mr. Monkhouse, of Stowe, near Hay, and Mr. Roberts, of Ivington."

Mr. Smythies then speaks of the high prices at

which he has sold Herefords, as an estimation of their value with the English public. He then goes on to say: "I have seen Hereford cows milk well, and had one myself which made eleven pounds of butter a week for three months; but it is not an object with a Hereford breeder to have good milkers; they are always light-fleshed, generally narrow in their chests and flat in their sides; whereas, it is the object of a Hereford breeder to get a good ox; having no manufacturing population, no water carriage, and no railroad, dairy produce will not pay in Herefordshire. The farmers, therefore, prefer keeping such cows as have a tendency to turn their chyle to flesh; and as they generally calve in November and December, they have little chance of being good milkers."

He, then, like a true Englishman, offers to settle the respective values of the different breeds of cattle, with something like a wager. Having no favors to show to either party, we here clear the stage at once, and open a fair field to the bellicose gentlemen. Please to listen to Mr. Smythies: "I will show one hundred Hereford beasts, which were the property of Sir Francis Lawley, on the 1st of January, 1849, and the same number which were the property of Mr. Aston, of Lynch Court, on the same day, against an equal number, the property of any two breeders of shorthorns or Devons in any part of Great Britain, on the same day, for one hundred sovereigns. I am willing to leave the decision to the three judges at the last Smithfield show, two of whom are unknown to me, even by sight. I am also ready to place four Hereford calves on the 1st of May next, in the hands of any respectable grazier in the midland counties, against four shorthorns and four Devons; no calf to be more than four months old on that day; the twelve calves to be turned to grass together, to have nothing but grass till the 20th of October following, then to be put into stalls, and to be fed as the grazier thinks proper; but the food to be weighed to each lot, till the following May, when they shall be again turned to grass, and have nothing but what they get there till the 1st of October; then to be again taken into the stalls, and the food weighed as before; the whole to be shown as extra stock at the Smithfield show, at the bazaar, and after the show to be slaughtered, the four beasts that pay the best to be the winners. As shorthorns are stated to come to more early maturity, I give Mr. Keary a great advantage here, as I have fixed two years old for the beasts to be slaughtered at. I think it fair to tell Mr. Keary that the late Duke of Bedford tried this experiment, and the Herefords won it. I propose that the grazier shall have eleven of the beasts for his trouble, and one shall be the property of the winner.

"Now, sir, I hope that this challenge will be accepted, or that we shall hear no more of the great superiority of shorthorns and Devons over Herefords. I think if Mr. Keary will refer to the accounts of the Smithfield club, he will find that the Herefords, in the last ten years, have gained more prizes, and at quite as early an age, as either the shorthorns or the Devons. What I complain of in the publishing of this essay in the journal is, that it will go forth all over Europe, and per-

haps America, as a puff advertisement in favor of shorthorns and Devons, and to the great prejudice of a far better breed than either of them, under the sanction of the society." Now, who shall say that the Herefords are not already triumphant? Where is our friend Sotham, and the other Hereford breeders of America? Have they nothing to offer in this matter? Can you equal the famous Hereford bull, bred by the late Mr. Jefferies? He weighed, not fully fattened, three thousand, nine hundred and twenty pounds! There is a big "bossy calf" for your comfort! But is he any better for being *big*? Please to answer us that, gentlemen. To be sure, you may say that a crab apple is small, with little or no nutrition, and so execrably sour that a pig would squeal if forced to eat it; while a pippin and a belle bonne are large, fair to look at, of delicious flavor, and highly nutritious. Shall we call the native scrubs, then, the "land crabs," and the aristocratic Herefords the "pippins" and "belle bonnes" of cattle?

A WORD TO THE DISAFFECTED.

FEELING a peculiar interest in that portion of the rising generation, who have been reared under the benign influence of agricultural occupations, and being also desirous of eradicating a prevalent error in the opinion of many of the *disaffected*, you will, I presume, readily afford me a brief space in the pages of your journal for expressing a few sentiments, which, I humbly trust, may find a welcome response from a large majority of your younger readers.

The subject on which I purpose a short dissertation is one, which, to me, has frequently occasioned no small astonishment; and though, however strange may by others be regarded, is, nevertheless, one whose lamentable reality demands an immediate counteraction. I particularly allude to an alarming inclination among our country lads and lasses to forsake the comfortable retirement of home, in exchange for the deceitful allurements of city employments. Infatuated with the mistaken idea of speedily enhancing their temporal welfare by engaging in some branch of an already overstocked trade, and "wonderfully tickled" by the vain novelties of the metropolis, they abandon friends, associates, and farms, pressing onward to the city, confidently anticipating the consummation of a thousand longing desires. The evident consequence of such actual multitudes concentrating in all our considerable towns and cities from every direction of the country, must, undoubtedly, be a marked decline both of wages and of labor; and those who have unluckily sacrificed the independent pursuit of agriculture for this entire imaginary benefit, will almost invariably, sooner or later, find that, like Franklin of old, they have paid dear for their whistle. Even under whatever advantageous circumstances they may perchance be situated in their new career, there are innumerable and unforeseen moral dangers to which they are unavoidably constantly exposed, and which daily threaten the ruin of the thoughtless and unguarded.

Beset by a host of vicious companions, and beguiled by every variety of temptation, it undoubtedly requires a powerful determination to avert destruction and maintain an unblemished character. In view of perhaps an eventual disappointment and

the uncertain nature of business, together with the imminent risk of the loss of virtue, peace, and happiness, I am at length constrained to believe that my disaffected young friends relinquish their native lands without the slightest consideration of the effects. Were calm reflection bestowed upon the subject by those who are afflicted with the *town fever*, I am confident that a general re-action would ensue, and the rage for citizenship would gradually subside under the more genial influence of husbandry. Having myself had some experience in the above matters, and deeming it especially fortunate in being able to return to the discharge of the duties of the farm, I should be particularly gratified and rewarded, were my humble pen the means of saving a single youth from the inevitable dangers attendant on city life and occupations.

FLOWBOY.

Greenwood, March 1st, 1849.

We think the views of "Plowboy" may further be elucidated by the following graphic extract from an exceedingly piquant article, by one of our contemporaries, on the delights of living in hotels in this city. He maintains that our people have a passion for gregariousness, and that this passion can only be accounted for on the supposition that our citizens have a horror of privacy:—

"They are willing," says he, "to sacrifice comfort, and, in some degree, personal independence, to gratify ambition for living in public life. No foolish tradition of the 'home of his childhood' haunts the memory of the Gothamite; and no lingering love of locality made sacred by the reminiscences of youth, interferes to check his vagrant habits. No sooner does he enter his teens than all family attractions disappear before his gregarious love—his desire is to live in a world of strangers. He is born in one house, cuts his teeth in another in a distant part of the city, is vaccinated in a third, and wears his first jacket in a fourth, and so on until he commences life for himself, and passes from one boarding house to another every three months. 'The foxes have holes, and the birds of the air have their nests;' but the son of Gotham has but a room of ten feet by eight, which he inhabits. For the peace of home, he has the monotony of the 'reading room.' He prefers the excitement of the bar room to the amenities of domestic life. His happiness is at the mercy of his fifty fellow boarders, who neither know nor care anything about him. His comfort depends upon the chambermaid, and his health on his power of resisting temptation. If he is sick, his pain is soothed by the hurried attentions of an Irish waiter; and if he dies, he performs that final operation amid the noise of slamming doors or strong gongs, and is buried as quickly as possible, to make room for another."

THE VALUE OF BONES AS A MANURE.—It is a fact well established by agricultural chemistry, that a single pound of bones contains as much phosphoric acid, (one of the essential ingredients of wheat,) as one hundred pounds of wheat. Notwithstanding this, it is true that many families in the United States waste more bones than would be required to manure, in this respect, the amount of the wheat crop they consume.

WHEAT GROWING IN TEXAS.

THE Red-River country in this state, embracing an extent of about 100 miles in width and about 500 in length, has already proved, with the imperfect experiments which have been made, to be better adapted to the production of wheat, than any other portion of the Union yet known. The product equals in quantity, exceeds in weight and quality, and precedes in time of harvest, by two most important months, all the wheat-producing country of the other states. The average per acre, where wheat has been sown on a field from which corn has been gathered in the same season, the land plowed up, sowed with grain, and dragged in with brush, is twenty bushels, and thirty bushels has been sometimes obtained. What would be the product from a proper and careful cultivation, is as yet a matter of estimate only.

In grinding the wheat into flour, the residuum is a light bran without middling, and the average weight per bushel is about seventy pounds. The harvest is in the month of May, which gives a monopoly of the entire southern market, at a season of the year when the northern supply has become musty and sour, under the influences of a southern climate. What the monopoly of the market is, may be proximately estimated from the fact that New Orleans alone consumes daily 750 barrels; and if that quantity constitutes one tenth of the whole consumption, it gives 750 barrels daily, or 450,000 barrels in sixty days, which, at three dollars per barrel, gives a return of nearly one and a half millions of dollars, for the agricultural product of one hundred thousand acres of land, cultivated by about three thousand laborers.

If the flour of the upper country finds a market in the lower, so will the sugar of the lower country find a market in the upper. We have just discovered that Texas is adapted to the cultivation of sugar, at a time when it seems doubtful whether its product is not already so near equal to the demand, as to render it unprofitable. By increasing the population of the northern portion of the state, and providing facilities of communication, the planter may secure a fair price.—*Houston Telegraph*.

COST OF MANURING AN ACRE OF CORN.—The following estimate of manuring an acre of Indian corn is from a practical farmer, of Hicksville, near Long-Island Railroad, New York :—

14 cubic yards, (20 loads,) of horse dung,	1.62
56 bushels of unleached ashes,	7.00
3,630 mossbunkers, (fish,)	4.54

\$13.16

The horse dung he applies in the hill, at the time of planting a handful of ashes is spread around the corn at the first hoeing; one fish is slightly covered with earth midway between the hills and lengthwise of the rows, in June or July. By this course of manuring, an acre will yield from 60 to 80 bushels of shelled corn, and will be in tolerable condition for a crop of rye, buckwheat, or oats, the next season, without any more manure.

HOURS OF SLEEP.

NATURE requires five—custom gives seven;
Laziness takes nine—wickedness eleven.

SHEEP SHEARS.

WELL-CONSTRUCTED wool shears are of great importance to a careful wool grower, not only in regard to a greater rapidity with which the shearer takes off the fleece, but especially to prevent cutting the sheep; which is injurious to the animal on account of the wounds which are kept inflamed and irritated by the flies and other insects during the best season, and besides there grows, generally, upon these injured parts a coarse kind of wool or hair, which depreciates the value of the fleece; and that of the animal as a breeder. While I was at Breslau, at the before-mentioned meeting of German agriculturists, there were exhibited a new kind of shears, which are now considered the best constructed, and are getting to be generally used there. I made an accurate drawing, full size, of such a pair of shears, from which a skillful mechanic can easily manufacture them.

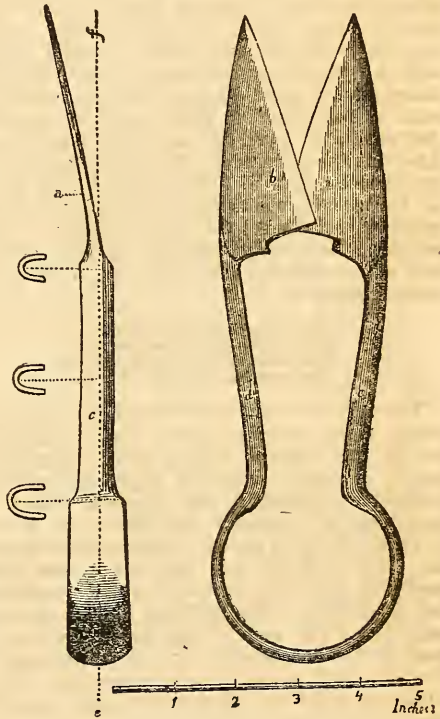


FIG. 35. GERMAN SHEEP SHEARS.

The shears *a* and *b*, Fig 35, are shorter than the common wool shears, and facilitate the shearer in cutting clean from the fold without injury to the sheep.

When a straight line is drawn through the spring *e*, and side piece *a* and *b*, the shears deflect from that line at an angle of about 10 degrees. This kind of shears are sold at Berlin, Prussia, Jaegerstrasse, No. 50, from \$2.80 to \$3.50 per dozen. [We have a similar article on sale, with double springs, imported from Germany, at 50 cents each.] —*C. L. Fleischmann*.

Ladies' Department.

ORIGIN OF SOAP.

SOME water and oil
One day had a broil,
As down in a glass they were dropping,
And would not unite,
But continued to fight,
Without any prospect of stopping.

Some pearlash o'erheard,
And quick as a word,
Jumped in the midst of the clashing;
When all three agreed,
And united with speed,
And soap was created for washing.

FEMALE EDUCATION—AMUSEMENTS.

THE amount of time foolishly wasted by females is really deplorable—at an age, too, in which their exertions are so much needed. With due respect to your correspondent "Eva," I think single-handed manufacturing in families, though once an indispensable duty, would be poor economy of time and labor in our day, when superior fabrics may be produced by machinery, at much less cost, though, under some circumstances, an occasional buzz of the spinning wheel may be expedient. Our duties, however, are not diminished, but, on the contrary, increased by the improvements of the age in which we live. Woman's sphere is enlarged beyond the limits of the broad rim of the spinning wheel, and is still enlarging. While our duties and responsibilities increase, we are held accountable for much that our grandmothers never dreamed of.

"New occasions teach new duties,
Time makes olden good uncouth,
They must upward still and onward,
Who would keep abreast of truth."

The time is coming when domestic duties are expected to be performed upon scientific principles; and we are bound to employ every means in our power, to make ourselves acquainted with the sciences pertaining to our domestic affairs. A knowledge of chemistry and dietetics, in a cook, is invaluable to a family. Information regarding the laws of health and life, and mental philosophy, is absolutely necessary to the proper rearing of children. The suffering I have seen and experienced for want of knowledge, and the almost incredible advantage gained by the application of a few practical ideas, makes me very desirous for others as well as myself, that we should have "more light."

I think, however, it is not proper that we should always be in performance of the sober duties of life. Nature does not bestow all her care on the sturdy oak and mountain pine, but adorns the landscape with an endless variety of fanciful colors and forms, enlivens the whole with music, and the frolicsome play of animated beings. Nor did she fail to implant in the human mind, faculties harmonizing with the beauty, melody, and gayety of external nature, which find a legitimate sphere of action in ornamental horticulture, vocal and instrumental music, &c. An evening dance of an hour in a family, in which old and young, parents and children may join, is at once conducive to the improvement of social feelings, and furnishes, at the

same time, a wholesome relaxation from care, and greatly promotes longevity and health.

AMANDA.

KEEPING LEMONS FRESH.

I HAVE been a housekeeper for some years, and never, till lately, have I been able to keep lemons fresh and juicy for any length of time. But with all my care—now in this closet—now in that—now wrapped in paper—now packed in bran—now in a cool place, and now in a dry one, they would dry up and become hard as wood. Of late, however, I have preserved them *perfectly fresh*, three months in summer, by placing them in a closely-covered jar, or pot, kept in the ice house.

Each lemon is wrapped up in paper, (perhaps they would do as well without,) but opened and wiped once in ten or twelve days, then covered again with dry paper, and put back into the jar, or earthen vessel, on the ice. MOTHER HUBBARD.

Otsego Co., N. Y., Feb. 24th, 1849.

ANTIDOTE TO POISON.—A correspondent of the London Literary Gazette, alluding to the numerous cases of deaths from accidental poisoning, and particularly the melancholy fate of the late Mr. Owen, adds:—I may venture to affirm, there is scarce even a cottage in this country that does not contain an invaluable, certain, and immediate remedy for such events; nothing more than a dessert spoonful of made mustard mixed in a tumbler glass of warm water, and drank immediately. It acts as an instantaneous emetic, is always ready, and may be used with safety in any case where one is required. By making this simple antidote known, you may be the means of saving many a fellow-creature from an untimely end.

TURNIP SALAD.—The tender tops of turnips, that have sprouted in the cellar or vegetable heap, make a delicate and wholesome salad, particularly at a season when the variety of fine lettuce has not come. They may be dressed like any other salad, or eaten dipped in salt, as celery. They are excellent in any way; and your only regret will be, that there is not likely to be as many messes as you would wish for.

MUSTARD PLASTERS.—When a mustard plaster is to be applied, there should always be a piece of clean muslin or gauze placed between it and the skin, unless the contrary is expressly ordered by a physician. The mustard acts quite as powerfully, and the whole can be removed more quickly, and without the disagreeable effects of dropping it about.

HOW TO REMOVE DUST OR LINT FROM VELVET OR WOOLLEN CLOTHES.—Dust or lint may readily be removed from velvet or woollen cloth by wiping it, while dry, with a piece of crape, without reference to color.

HOW TO REMOVE PAINT FROM WOOLLEN GARMENTS.—If you accidentally besmear your clothes with undried paint, it may easily be removed by rubbing with a piece of woollen cloth, or another part of the garment soiled, without harm.

Boys' Department.

AGRICULTURAL CHEMISTRY.—No. 12.

IN my last letter, I gave you a description of the most important organs belonging to plants, explained their texture and functions, described the flow of the sap, and told you that, in its descent, (after being submitted in the leaves to the action of the air,) it was fitted for the production of the various portions belonging to the vegetable growth. Let us now examine the vegetable fabric more closely, and take a view of those compounds called proximate principles. In speaking of the constituents of plants, the terms *proximate* and *ultimate*, are frequently used by writers on this subject—the former denoting their compound, the latter their elementary constituents. Every proximate principle must, therefore, be composed of two or more ultimate principles. There are a great number of compound substances found in different plants, and almost every species containing one or more, which is not found in any other, though but a few of these are of much consequence to the agriculturist. The following group of twelve, which I will describe separately, comprises the most common and interesting among them:—Sugar, starch, gum, woody fibre, gluten, vegetable albumen, diastase, and acetic, tartaric, oxalic, citric, and malic acids.

Now, if a person should tell you that he could take three ingredients, and from them form a number of compounds, differing as widely from one another as sugar, starch, and woody fibre, you would be likely to doubt the possibility of such a fact; and, if he should say he would not only use the same three ingredients in each of his compounds, but, in each case, would mix them in precisely the same proportions, you would either pronounce it an impossibility, or you would suppose he was going to deceive your senses by jugglery. But Nature is no juggler—neither does she perform impossibilities; yet she does accomplish, in the composition of almost every vegetable that grows, precisely the operation above-mentioned. Out of carbon, hydrogen, and oxygen, she forms sugar, starch, and woody fibre; and in each of these substances, the three ingredients of which they are formed, exist in exactly the same proportions.

This is truly a wonderful operation, and beautifully illustrates the economy, so to speak, which seems a governing principle in all of Nature's doings. Instead of multiplying elements to an indefinite extent, she contrives to economize a few, in such a way, as to make them answer the desired end. How strange, that any person, who has ever contemplated the wonders of creation, as displayed in animal or vegetable life, can doubt, for a moment, the existence of a Supreme and All-Controlling Power! Although we can analyze vegetable compounds, and separate, examine, and weigh their elementary ingredients, yet we cannot reunite them so as to produce the same substance which Nature formed from them in the living plant; neither can we say, with any certainty, how nature forms such different substances, by combining the same elements in the same proportions.

In reading the works of Johnston, Leibig, and other authors, who treat extensively on these subjects, you will find plausible theories and conjectures to explain the process by which one compound is converted into another in the living plant. Although such speculations and investigations are interesting and useful, they would occupy too much space, were I to attempt to place them before you. My highest aim in writing these letters, will be accomplished, if I can awaken in you a spirit of inquiry, and prepare your minds for the comprehension and reception of truths more wonderful and grand, than any I shall attempt to unfold. In my next letter, I propose to treat of the twelve substances named above, under separate heads.

J. MCKINSTRY.

Greenport, N. Y., March 1st, 1849.

UTILITY OF FROGS.

I REMEMBER somewhere of reading that, many and many years ago, a number of frolicsome boys were one day watching frogs, at the side of a pond, and that, as any of them put their heads above the water, they pelted them down again with stones. One of the frogs appealing to the humanity of the boys, made this striking observation: "Children you do not consider, that though this may be sport to you, it is death to us." It is to be feared that the same propensity to maim and torture these poor, innocent reptiles prevails to some extent with the youth at the present day. But this is cruel—wicked—wrong; for the usefulness of frogs about our gardens and fields can scarcely be too highly estimated, as their food consists almost exclusively of worms, slugs, insects, and other small living things, which they seek among the plants and grass on the land.

Frogs, like the toad, it is well known, are hatched from eggs, laid early in the spring in shallow pools or near the edges of sluggish streams, which, when taken together, are called "spawn," and often resemble a mass of boiled sago, sprinkled with a large number of small black dots. The young tadpole, which is hatched from them, passes through several metamorphoses, and at the end of some weeks, becomes a "gaping, wide-mouthed, waddling frog." If you examine his tongue, you will observe that, instead of being rooted at the throat, as in other animals, it is fastened to his under lip, with its point directed towards the stomach. Nevertheless, this singular arrangement is well suited to his purposes, for his tongue, as an organ of prehension, is very effective, being flat, soft, and long, and covered with a viscous fluid, which enables him more readily to catch and secure his prey. When he wishes to use it, he lowers his under jaw, ejects and retracts it with the rapidity of light.

Instead of torturing these poor reptiles, it is recommended that every lad in the country, give place in some snug corner in the garden for a vessel holding a few gallons of water, buried nearly level with the surface of the ground, in which may be put one or more frogs, to be petted and cherished like any other domestic animal, and where its curious and interesting habits may be studied at leisure.

RANA.

FOREIGN AGRICULTURAL NEWS.

By the steamer *America* we are in receipt of our foreign journals to the 24th February.

MARKETS.—*Ashes*, firm; *Cotton*, an advance of $\frac{1}{4}$ d. per lb., with very large sales, upwards of 270,000 bales having changed hands during the past four weeks; *Corn*, *Wheat*, and most other American products, with the exception of *Tobacco*, are lower; *Wool*, sales large and more animated.

Money is very abundant, and is loaned at short periods, at the rate of 2 to 3 per cent. per annum; *American Stocks* continue in good demand.

Fattening Pork on Oatmeal.—A prime Lancashire porker has been slaughtered at Garstrang, which weighed, when cut up, 671 lbs., and was valued at £15 7s. 6d. It was fed on oatmeal, and is stated to well repay the keeper.

Expeditions and Economical Washing.—A discovery is stated to have been made in England, by which a family's six weeks' washing can be accomplished before breakfast for less than *sixpence sterling*, and this, too, without a washerwoman.

Trees and Shrubs for Cemeteries.—The following trees and shrubs are recommended for church yards and cemeteries, wherever they are adapted to the climate:—English yew, holly, weeping willow, phillyrea alaternus, junipers, arbor vitæ, cypresses, and others not producing gay flowers, but possessing a deep evergreen foliage, with the exception of savin, which should not be used.—*Gardeners' Chronicle*.

How to Keep Rabbits from Barking Trees.—Soot, mixed with milk, or buttermilk, till as thick as paint, and laid on the trunks of the trees with a brush, on a dry day, is stated to be a preventive of rabbits gnawing off the bark from trees.—*Ibid*.

American Cheese in England.—Very excellent American cheese, quite equal to the finest dairies of Cheshire, have been imported and retailed at Sunderland, at 6d. per pound. The cheeses were about 56 lbs. weight each, and were quite sound, firm, and of good age for consumption.—*Durham Advertiser*.

Extraordinary Canary Bird.—At the Brackley Union Workhouse, Northamptonshire, there is a pair of Canary birds, the female of which, since March, 1848, has built eight nests, laid 46 eggs, hatched 40 birds, and reared 36 birds, and is now building the ninth nest.—*English Paper*.

Melon Wine.—It was lately stated before the Academy of Sciences, at Paris, by M. Boucharett, that the melon yields an excellent white wine, which will keep for several centuries, and, if properly cultivated, may be made to render a handsome profit.

A New Freezing Mixture.—A mixture of equal weights of commercial hydrochloric acid and finely-powdered sulphate of zinc will produce a cold sufficient to sink the mercury in a thermometer from 50° to 20° F.—*Journ. de Pharm. et de Chim.*

Manures.—Subjoined are the prices of several sorts of manure:—Bone dust, 18s. 6d. per 28 lbs.; Half-inch bone, 17s. 6d. per 28 lbs.; Compost, £3 12s. 6d. per hhd., sufficient for three acres; Guano, Peruvian, £9 9s.; Bolivian, £9 9s.; African, £6 6s. to £7 10s. per ton, according to analysis and quantity; Gypsum, 30s. per ton; Muriate of ammonia, 25s. per cwt.; Muriate of lime, 6s. per cwt.; Nitrate of potash, (saltpetre), £26 to £28 per ton; Nitrate of soda, £14 10s. to £15 per ton; Rape dust, £6 6s. per ton; Rape cake, £6 per ton; Sulphuric acid, 14d. per lb.—*Farmer's Herald*.

Indestructibility of Cork.—In taking down some portion of the ancient Château of the Rogue d'Oures, in France, it was found that the extremities of the oak girders, lodged in the walls, were perfectly preserved, although these timbers were supposed to have been in their places for upwards of 600 years. The

whole of these extremities, buried in the walls, were completely wrapped round with plates of cork, the impermeability of which is too well known to be named here. In a process so cheap and simple, the experiment deserves to be repeated, more particularly for buildings we are more than usually anxious to preserve the timbers of.—*From the French*.

Effect of Food and Climate on the Horse.—If a London dray horse be conveyed to Arabia, and subjected to the same influences to which the native horses of that country are exposed, it will, in the course of some generations, present the leading characters of an Arabian horse. The head will gradually diminish in size, the limbs will become fine and clear, the massive proportions of the whole body will disappear, and not only will the external form of the native horses be acquired, but, along with that, something also of their chivalrous disposition. If the race, thus improved, be again conveyed to Europe, it will gradually deteriorate, and, in the course of some generations, will again acquire all its original properties.

This fact, which we state on the authority of Professor Pictet, of Geneva, seems to prove that the Arabian horse cannot exist in perfection in any of the western countries of Europe; and there can be little doubt that the humidity of the climate, and the influences indirectly arising from that cause, are the principal reasons of this change.—*Journal of Agriculture*.

Lime Essential in Madder Dyeing.—A remarkable discovery has been made in regard to madder dyeing, in the fact that lime is very essential in this process. It has been ascertained that madder, if not grown on a calcareous soil, is incapable of producing fast colors; but that, if in this case chalk be added to the madder, during dyeing, or if lime water be employed, the desired effect is produced. This may be explained from the circumstance, that a slight excess of lime exists in the roots of the madder when grown in a calcareous soil.

The Llama and Alpaca.—A communication has been received by the Paris Academy of Sciences, from M. Christian Bonafoux, giving an account of the attempt made, by order of the king of Holland, to acclimatize the llamas and alpacas of Chili. Four years ago, thirty-four of these animals, males and females, were imported into Holland, and put into the royal park, Scheviningen, near the Hague, where they have propagated freely. The climate does them no injury, and they merely seek the shelter prepared for them when the snow is on the ground.—*Year Book*.

Artificial Stone.—A new process has been discovered by Mr. Frederic Ransome, of England, for making artificial stone, by subjecting broken pieces of silica, (common flint,) for a time, to the action of caustic alkali boiling under pressure in a close vessel, forming a transparent silicated solution, which is evaporated to a specific gravity of 1,600, and is then intimately mixed with given proportions of well-washed sand, broken granite, or other materials of different degrees of hardness. The paste thus constituted, after being pressed into moulds, from which the most delicate impressions are readily received, is subjected to a red heat in a stove or kiln; by which operation the free or uncombined silica of the raw materials unites with the excess of alkali existing in the solution, thus forming a semi-vitreous compound, and rendering the artificial stone perfectly insoluble. This production must evidently be adapted to a comprehensive range of objects for decorative art and architectural purposes,—busts, vases, flooring tiles, steps, balustrades, mouldings, capitals, shafts, and bases of columns, &c., &c. Even grindstones, and whetstones for scythes, have been made.—*Ibid*.

Editors' Table.

PRESIDENT TAYLOR'S VIEWS ON AGRICULTURE.—We are glad to perceive the prominent notice which agriculture receives at the hands of President Taylor, in his recent inaugural. "It shall be my study to recommend such constitutional measures to Congress as may be necessary and proper to secure *encouragement and protection* to the great interests of *agriculture*, commerce, and manufactures; to improve our rivers and harbors; to provide for the speedy extinguishing of the public debt; to enforce a strict accountability on the part of all officers of the government, and the utmost economy in all public expenditures." These are the sentiments of an enlightened, *comprehensive patriot*, not one of our modern, progressive, imitation statesmen, whose intellects, interests, and efforts begin and end with gulling a narrow-minded constituency with a show of patriotism, which, rightly named, is the most arrant demagoguism, intended for their own selfish purposes at the expense of the best interests of the whole Union. If the principles of President Taylor are followed out by Congress, it will not be long ere we have an intelligent *National Board of Agriculture*, such as was recommended by the immortal Washington, the benefits of which will eventually be felt from Maine to California.

NATIONAL AGRICULTURE—THE NEWLY-CREATED HOME DEPARTMENT.—We are rejoiced, yet disappointed by the late act of Congress in creating the *Home Department*, the object of which is, to withdraw from the other already overburdened branches of the Executive, some part of their duties not necessarily connected with them. Among these are the Patent Office, the Indian Department, some matters relating to internal improvements, and several minor subjects. This is all very well and calculated to simplify the operations of the machinery of government, while it will materially add to its efficiency, if administered with energy and intelligence.

But we have cause for an intense regret, that a clause for the *organization of an Agricultural Board*, in the bill originally introduced, was stricken out before its final passage. Thus it has ever been with the concerns of agriculture in our national councils. This immense and vital interest of our country, without the successful prosecution of which, the United States would be reduced to beggary and starvation within a single year, is thus left, as heretofore, to take care of itself, without one single act or countenance from the legislative action of our representatives. We are tired with arguing the point of the demands of agriculture on the favorable notice of the government. We can only express the wish, that those who reject every measure of assistance to this great interest, might be confined to their own windy productions for food and raiment, till their craving stomachs and shivering limbs prompted some aid to those on whom they are dependent for the daily comfort of both. When our farmers and planters become wearied with this neglect, they will take some measures to remedy it. We trust they will receive no attention till they have themselves manifested a becoming interest in the subject.

THE AMERICAN BEE KEEPER'S MANUAL; being a Practical Treatise on the History and Domestic Economy of the Honey Bee, Illustrating the Best Methods of their Management, through Every Branch of the Culture of this Insect; the Result of Many Years' Experience; by T. B. Miner, Embellished with thirty-five Beautiful Engravings, pp. 349, 12mo. C. M. Saxton, 121 Fulton street. Price \$1.00. This treatise, which has been announced in glowing colors, we think quite equals the author's promises. It is writ-

ten in a clear and comprehensive style, touching upon every subject of interest, in a manner that shows that the author fully understands the subject. Some of the elucidations are in a conversational style, of the most familiar and interesting character. The most prominent feature of the work, however, is the large number of illustrations it contains, which must have been a heavy item of the expense of getting it up. Every person, whether a bee keeper or not, should possess a copy of this interesting and instructive treatise.

NORTH BRITISH REVIEW.—We have received from Messrs. Leonard Scott & Co., 79 Fulton street, the February number of this sterling periodical. The articles are, as usual, of a high character; but the most interesting one of the present moment, is the review of Macaulay's History of England, the first two volumes of which we read immediately after being issued by the Messrs. Harper, with intense delight. In our humble judgment Mr. Macaulay will create a new era in historical writing.

THE WORKING FARMER; edited by James J. Mapes, and published by Kingman & Cross, corner of Nassau and Beekman streets, New York, pp. 16 quarto, monthly. The editor of the above is already known to the public as a lecturer, and a vigorous writer on several scientific subjects, and we have no doubt he will make an interesting periodical. We hope the publishers may be remunerated for their enterprise by a liberal subscription list.

PENNSYLVANIA CULTIVATOR AND MECHANIC AND IRON AND COAL REGISTER; Dr. Thomas Foster editor, Foster & Co. publishers, Harrisburg, Pa., pp. 32 octavo, monthly. Price \$1 a year. The Pennsylvania Cultivator is handsomely printed and illustrated, and abounds with highly-valuable practical matter. Will the publishers please to send us the first four numbers, as No. 5 is the only one received.

THE WISCONSIN FARMER AND NORTH WESTERN CULTIVATOR; Edited and published by Mark Miller, 101 Maine street, Racine, Wisconsin, pp. 24 octavo, monthly. This is a surprisingly well got up and ably edited publication, when we consider that fifteen years ago, scarce a white man had a fixed habitation within the limits of what is now a large state, probably with a population of at least 130,000 souls, and their numbers annually rapidly augmenting. There is no surer sign of the prosperity of a country founded upon the most solid basis, than an enlightened and improving system of agriculture; and if Wisconsin liberally supports such works as the above, we shall have great confidence in her soon attaining a high rank in the Union.

THE AMERICAN FRUIT BOOK; containing Directions for Raising, Propagating, and Managing Fruit Trees, Shrubs, and Plants; with a Description of the Best Varieties of Fruit, including New and Valuable Kinds; Embellished and Illustrated with Numerous Engravings. By S. W. Cole, Editor of the New-England Farmer, &c., &c., Boston: John P. Jewett, pp. 288, 18mo. The object of this treatise has been "to furnish a book adapted to the wants, and within the means of every family in the country—emphatically a work for the million—containing all the practical information necessary for the production and successful management of trees, and the selection of the best varieties of fruit, in order to excite greater attention, both in cultivator and consumer, in raising more and superior fruits." Published, and for sale by C. M. Saxton, 121 Fulton street, New York.

LUMBER IN MAINE.—In the town of Bangor, Me., the quantity of lumber surveyed in 1848 amounted to 212,932,449 feet.

COMPARATIVE VALUE OF STOCKS.—One share in the bank of earth is worth ten in the bank of paper.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, MARCH 17, 1849.

ASHES, Pots,.....per 100 lbs.	\$6 62 to	\$6 69
Pearls,.....do.	7 00 "	7 25
BALE ROPE,.....do.	6 "	8
BARK, Quercitron,.....ton,	25 00 "	23 00
BEANS, White,.....bush.	75 "	1 25
BEEFWAX, Am. Yellow,.....lb.	19 "	22
BOLT ROPE,.....do.	11 "	12
BONES, ground,.....bush.	40 "	55
BRISTLES, American,.....lb.	25 "	65
BUTTER, Table,.....do.	15 "	25
Shipping,.....do.	9 "	15
CANDLES, Mould, Tallow,.....do.	10 "	13
Sperm,.....do.	25 "	40
Stearic,.....do.	20 "	25
CHEESE,.....do.	5 "	10
COAL, Anthracite,.....2,000 lbs.	5 00 "	6 00
CORDAGE, American,.....lb.	10 "	12
COTTON,.....do.	6 "	10
COTTON BAGGING, Amer. hemp,.....yard,	15 "	16
FEATHERS,.....do.	30 "	40
FLAX, American,.....do.	8 "	9
FLOUR, Northern, Southern and West'n bl.	5 25 "	6 05
Fancy,.....do.	6 25 "	6 50
Richmond City Mills,.....do.	6 75 "	7 00
Buckwheat,.....do.	— "	—
Rye,.....do.	3 25 "	3 44
GRAIN—Wheat, Western,.....bush.	1 10 "	1 35
Red and Mixed,.....do.	1 00 "	1 20
Rye,.....do.	63 "	64
Corn, Northern,.....do.	65 "	60
Southern,.....do.	52 "	57
Barley,.....do.	62 "	65
Oats,.....do.	31 "	45
GUANO, Peruvian,.....2,000 lbs.	50 00 "	50 00
" Patagonian,.....do.	35 00 "	40 00
HAY, in bales,.....do.	50 "	55
HEMP, Russia, clean,.....ton.	205 00 "	225 00
American, water-rotted,.....do.	160 00 "	220 00
American, dew-rotted,.....do.	140 00 "	200 00
HIDES, Dry Southern,.....do.	7 "	8
HOPS,.....lb.	4 "	12
HORNS,.....do.	100 "	10 00
LEAD, pig,.....do.	4 62 "	4 75
Pipes for Pumps, &c.....lb.	5 "	7
MEAL, Corn,.....bbl.	2 62 "	3 00
Corn,.....do.	14 00 "	14 50
MOLASSES, New Orleans,.....gal.	25 "	30
MUSTARD, American,.....lb.	16 "	31
NAVAL STORES—Tar,.....bbl.	1 75 "	2 00
Pitch,.....do.	1 25 "	1 75
Rosin,.....do.	90 "	1 05
Turpentine,.....do.	2 50 "	3 00
Spirits Turpentine, Southern,.....gal.	35 "	37
OIL, Linseed, American,.....do.	65 "	66
Castor,.....do.	1 25 "	1 50
Lard,.....do.	65 "	70
OIL CAKE,.....100 lbs.	1 50 "	1 75
PEAS, Field,.....bush.	75 "	1 25
Black-eyed,.....do.	1 25 "	1 50
PLASTER OF PARIS,.....ton.	2 25 "	3 00
Ground, in bbls,.....of 300 lbs.	1 12 "	1 25
PROVISIONS—Beef, Mess,.....bbl.	9 00 "	13 50
Prime,.....do.	5 00 "	8 50
Smoked,.....do.	6 "	12
Rounds, in pickle,.....do.	4 "	6
Pork, Mess,.....bbl.	10 00 "	13 00
Prime,.....do.	7 00 "	10 00
Lard,.....do.	7 "	8
Bacon sides, Smoked,.....do.	3 "	4
In pickle,.....do.	3 "	4
Hams, Smoked,.....do.	5 "	9
Pickled,.....do.	4 "	7
Shoulders, Smoked,.....do.	4 "	5
Pickled,.....do.	3 "	4
RICE,.....100 lbs.	2 88 "	3 38
SALT,.....sack,	1 17 "	1 30
Common,.....bush.	20 "	35
SEEDS—Clover,.....lb.	6 "	7
Timothy,.....bush.	2 00 "	3 50
Flax, clean,.....do.	1 30 "	1 40
rough,.....do.	1 25 "	1 30
SODA, Ash, cont'g 80 per cent. soda,.....lb.	3 "	—
Sulphate Soda, ground,.....do.	1 "	—
SUGAR, New Orleans,.....do.	4 "	6
SUMAC, American,.....ton,	35 00 "	37 00
TALLOW,.....lb.	8 "	9
TOBACCO,.....do.	3 "	8
WHISKEY, American,.....gal.	22 "	24
WOOLS, Saxony,.....lb.	35 "	60
Merino,.....do.	25 "	35
Half-blood,.....do.	20 "	25
Common do.,.....do.	18 "	20

NEW-YORK CATTLE MARKET.

At Market.—1,000 Beef Cattle, (800 southern, the remainder from this state and east), 75 Cows and Calves, and 2,000 Sheep and Lambs.

Beef Cattle.—The market is firm in prices. The sales run from \$6 to \$9 per hundred. The number of head on hand is estimated to be 100.

Cows and Calves.—All taken at from \$20 to \$45.

Sheep and Lambs.—These are getting scarce. Sales from \$2.25 to \$6, according to quality. All sold.

REMARKS.—The changes have been so trifling since our last that we find nothing worth recording.

The Weather is very fine for the season, and spring has opened well. Planting has begun at the south under favorable auspices. Winter Wheat and Rye are looking well, generally, and we hear of very little winter-kill.

To Correspondents.—Communications have been received from Thomas Antisliff, Wm. H. Sotham, Solon Robinson, E. S., Enoch Reed, Jacob Hewes, John Wilkinson, J. McKinstry, M. W. Phillips, George Gebhart, Col. W. Hampton, and Reviewer.

Fastidiousness.—A Subscriber.—It has ever been our aim since the establishment of this journal, not to admit anything in its columns, that would offend. Yet, in many instances, from the very nature of the subjects on which we necessarily write, it is impossible to avoid the use of terms and language that will not be more or less repulsive to a delicate, or fastidious mind. The passage in our March number, to which you take exception, was inserted at the *urgent request* of several individuals, and involves one of the most important principles in the economy of breeding, without a knowledge of which, the uninitiated would often fail to accomplish a very important end. If you possess "more enlightened views" on "The Cow—Her Diseases," &c., than are expressed in our articles under that head, we should be pleased to receive them; but the articles above alluded to, are based on twenty-five years' successful practice of one of the most enlightened and distinguished veterinary surgeons of the age. We assure you that we have often been thanked by farmers for the very articles of which you complain, and they reckon them among the most valuable in our columns. However, we know that it is a delicate subject, and we will be doubly watchful here after not to offend more than is absolutely demanded of us by those who seek useful and practical information.

ACKNOWLEDGMENTS.—Proceedings of the Agricultural Convention of the State of Delaware, held at Dover, Jan. 17th, 1849; Catalogue of Mount-Airy Agricultural Institute; from Fowler's and Wells, of New York, Lectures on the Philosophy of Mesmerism, also, a small Treatise on the Cholera, its Causes Prevention, and Cure.

COLE'S AMERICAN FRUIT BOOK.

S. W. COLE, Esq., Editor of the New-England Farmer, and author of the popular work entitled the American Veterinarian, of which 22,000 copies have already been published, has, after years of patient labor and close investigation, completed his great work, entitled "Cole's American Fruit Book,"—a work which we believe is destined to have a more widely-extended circulation than any similar work, ever before offered to the American public. We believe so for the following reasons:—

1st. It is a mature work and a practical one, one upon which Mr. Cole has spent many years of study and close examination, and knowing the wants of the community, has met those wants in a plain, concise, and familiar manner, avoiding technicalities, and scientific specifications and definitions, useful only to the few, he has made a work intelligible to all. It is emphatically a book for the people.

2d. It will have an unprecedented sale on account of its cheapness. It makes a volume of 288 closely-printed pages. Illustrated with nearly two hundred beautifully-executed engravings, by Brown, and is sold for 50 cents firmly bound in leather, and 62½ cents in fancy cloth, with gilt backs. It contains full directions for raising, propagating and managing fruit trees, shrubs, and plants, with a description of the best varieties of fruits, embracing several new and valuable kinds; embellished with engravings, and outlines of fruit trees, and various other designs.

100 agents, active, intelligent, and honest, are wanted to sell this book, in every state in the Union. A cash capital of from \$25 to \$50 will be necessary. Address, (post paid,) the publishers, John P. Jewett & Co., 23 Cornhill, Boston. C. M. SEXTON, Agent for N. Y. city, and southern counties of New Jersey. apr2t

AMERICAN INDESTRUCTIBLE MINERAL PAINT.

RECENTLY discovered in Ohio, a most admirable and effective preservative from the effects of the weather, and preventive of fire, becoming in a short time of the consistence and qualities of slate itself. For Manufactories, Railroad Depôts, Roofs of all descriptions, and Public Buildings, it is invaluable. For an account of this paint, see p. 29, of the present number. For sale by the hundred, barrel, or ton, by WM. H. STARR, general agent for the proprietor, No. 67 Beekman street, New York. j3t

SHORTHORN DURHAM'S AT AUCTION.

THE subscriber being about to dispose of 50 acres of his farm, will offer at public sale 30 head of Shorthorn Durham cattle, (being about one half of his present herd,) on the 13th day of June next, at 11 o'clock in the forenoon, consisting of yearlings, two-year and three-year-old heifers, cows, and 11 young bulls from 10 months to 2½ years old. Great care has been observed, and considerable expense incurred in selecting and breeding this stock, with reference to purity of blood and dairy qualities. The awards of the New-York State Agricultural Society, and the American Institute, of New York, attest the estimation in which this stock is held, whenever it has been exhibited for competition. About eight head of the above cattle are a purchase made from E. P. Prentice, Esq., of Albany, last May, being all of the shorthorns of that gentleman, and the product of his four selected cows, retained at his public sale. The animals have the strain of blood of the herd of Mr. Whitaker, of England, from whom Mr. Prentice made his principal importations. The other part of the lot of young animals partakes largely of the blood of the celebrated herd of Thomas Bates, Esq., of Yorkshire, England, from whom my importations have been derived, and are mostly of the get of my imported bulls, Duke of Wellington, and the premium bull Meteor. The heifers and cows are and will be principally in calf by these bulls.

For the information of southern gentlemen, who desire to introduce Durham stock into that region, and who entertain the opinion that climate is incongenial to its successful propagation there, I here introduce an extract from a letter I received from A. G. Sumner, Esq., editor of the "South Carolinian," dated Columbia, 25th January, 1849.

"The bull you sold Col. Hampton, of this state, gives him great satisfaction. He is a fine animal and I only wish you could see some 20 head of his get now in his yard. They are the most superb yearlings ever bred in the south."

Further particulars and pedigrees of the stock will be issued one month previous to the sale. A credit of 6 to 18 months will be given.

GEO. VAIL.
apr.31 Troy, N. Y., April 1st, 1849.

POUDRETTE.

THE LODI MANUFACTURING CO. offer their new and improved Poudrette, for sale at their usual rates—1 bbl. \$2; 3 bbls. \$5, and \$1.50 per barrel for any quantity over 7 barrels, delivered free of expense, on board of vessels in New York. At the factory, where vessels, drawing eight feet of water can come, it will be sold at 25 cents per bushel.

The expense per acre in manuring corn with Poudrette, will not amount to more than \$4, reckoning 25 cents per bbl., freight and all the necessary labor included. On land previously manured, or good sward land, one gill to the hill is sufficient; on poor ground, a good crop can be raised by one gill to the hill at planting, and one at the last hoeing. The cost in labor alone, of manuring in the hill with barn-yard manure, will amount to more than the first cost of Poudrette, with all the freight and charges added; and the effects of this manure are quicker; the corn grows more vigorously, and comes to maturity earlier. A fair trial, however small, is respectfully solicited.

Apply, if by letter, post paid, to the LODI MANUFACTURING CO., 51 Liberty st., New York. f3t

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MANUFACTURE all kinds of Blank Books and Stationery articles—Diamond Point Gold Pens—Letter Copying Presses—Manifold Letter Writers—superior Croton Ink, warranted to retain its jet-black color, which they sell at the very lowest prices.

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Sept. 1yr.*

MINER'S PATENT EQUILATERAL BEE HIVE.

THE price of the rights to individuals of this hive, offered in the Feb. No. of this paper for \$1, in pamphlet form, with full directions to make it, is raised to \$2 in consequence of the increased number of engravings, &c. beyond my anticipations. It is worth five times the price to any apian having several families of bees. Monies may be sent at my risk. Single hives with right, &c., \$5. Hives with bees will also be furnished.

T. B. MINER,
No. 40 Peck Slip, N. Y.

ANALYSIS OF SOILS, MANURES, &c.

IN order to afford to Practical Agriculture all the benefits which the recent discoveries in chemistry and the collateral sciences are capable of yielding, the American Agricultural Association have established a Chemical Laboratory in which agriculturists in the Union can have soils and manures analyzed, and to spread these advantages as widely as possible, the following low rates of charge have been adopted:—

- | | |
|--|--------|
| TERMS. | |
| 1. Complete analysis of a soil so as to specify the quantity of each ingredient, with recommendation of the proper manures required, | \$5.00 |
| 2. Approximate analysis of soil or subsoil, to determine the presence of a particular ingredient. | 1.00 |
| 3. Analysis of bone dust, gypsum, &c., when the amount of one ingredient only is required, | 0.50 |
| 4. Guano analysis, | 1.00 |
| 5. A correspondence on a particular subject, where no substance is forwarded, must enclose | 1.00 |

Correspondence will be opened with every part of the Union so that information may be obtained on matters connected with practical agriculture.

Samples of soils, manures, (about 1 lb. weight of each.) and letters to be forwarded, (post paid,) addressed to Dr. Thomas Antisell, Laboratory of the American Agricultural Association, 140 Grand st., corner of Elm, New York.

apr.1g

ALBANY AGRICULTURAL WAREHOUSE AND SEED STORE.

Removed from stand No. 10 and 12 Green street, to the spacious New Store No. 369 Broadway, a few doors South of the Post Office, Albany, N. Y.

THE subscriber being a sufferer from fire, in connection with a large portion of the citizens of Albany (having lost his store and stock on the morning of the 29th of October last), has secured for a term of years the new and extensive store, No. 369 Broadway, or old Market street, a few doors south from the Post Office. This store being 145 feet deep, and four stories high, is much larger than his former one and running through from Broadway to the Canal basin—Broadway being the principal thoroughfare in the city, between the boat landings and depôts, the location is readily found. These advantages, with the increased facilities, will enable him to transact many times the business heretofore done by him, and more convenient for the trade generally.

In connection with these changes, he is erecting an extensive manufactory in the central part of the city, sufficiently large to accommodate over 100 mechanics, and a proportionate amount of labor-saving machinery, which will enable him at all times to execute all orders with despatch. And he solicits the continuance of that very liberal patronage heretofore bestowed upon his establishment.

H. L. EMERY.
N. B. It is his intention to establish branches at Rochester and Buffalo the coming spring, each to be under the charge of experienced brothers of the subscriber.

COMMERCIAL GARDEN AND NURSERY.

PARSONS & CO., at Flushing, near New York. The proprietors of this establishment invite public attention to their large assortment of every desirable variety of Fruit and Ornamental Tree or Shrub. Their importations of everything new in Europe are annually continued, and they offer a very large variety of Ornamental Trees and Shrubs imported expressly for arboreta and pleasure grounds. Their collection of Roses is annually enriched by novelties from abroad, many of which may be found described in their new work on the Rose, recently published. Fruit Trees receive their particular attention, and are propagated under their personal supervision; this care, with their possession of extensive specimen grounds, in which is tested every variety of fruit they cultivate, enables them confidently to guarantee the genuineness of the varieties.

Their care in pruning and cultivation enables them also to send out thrifty and well-formed trees. From their large scale of propagation, they can offer to dealers very liberal discounts, where hundreds or thousands are taken. Orders or inquiries can be addressed to the proprietors at Flushing, near New York, where catalogues will also be furnished. They have established a Branch at Brighton Depot near Boston and by the entire success of their trees transplanted thither have thoroughly proved the superior adaptation of Long-Island Trees to the soil and climate of any part of New England. This they attribute to the perfect maturity attained by the wood before frost, which renders the trees suitable for transportation to any latitude.

At the season of transplanting, a salesman will be at their Brighton Branch to furnish those who may prefer obtaining their supply thence. mhft

LAND FOR SALE.

FOR SALE—2,000 acres of land lying in the marl region of Eastern Virginia, and within two to seven miles of the town of Fredericksburg. Apply to LAYTON Y. ATKINS, dec. 1yr. Fredericksburg, Va.

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Horticultural Tools—A complete assortment.

Castings, Skeleton Plows, Harrow Teeth, and Iron Work of all kinds done to order in the cheapest and best manner.

Steam Engines, Sugar Boilers, Sugar Mills, Saw Mills, Kettles, Cauldrons, &c., for Plantations.

Wire Cloth and Sieves—Different kinds and sizes, kept constantly on hand.

Seeds for the Field and Garden—Such as Improved Winter and Spring Wheat, Rye, Barley, Oats, Corn, Beans, Peas, Turnip, Cabbage, Beet, Carrot, Parsnip, Clover and Grass Seeds, Improved varieties of Potatoes, &c., &c. These are warranted fresh and superior of their kind.

Fertilizers—Peruvian and African Guano, Lime, Plaster of Paris, Bone Dust, &c., &c.

Fruit and Ornamental Trees and Shrubs—Orders taken for these, and executed from a choice of the best Nurseries, Gardens, and Conservatories in the United States.

Horses, Cattle, Sheep, and Swine—Orders received for stock of all kinds, to be executed to the best advantage, and shipped in the most careful manner.

Agricultural Books—A general assortment of these for sale.

Produce on Consignment—All kinds of Agricultural Produce will be received for sale on consignment.

A Catalogue of the above Implements, Seeds, &c. of 100 pages, handsomely illustrated with plates, will be forwarded, by mail, when requested, post paid.

EAGLE PLOWS.

CAUTION.—Many implements having been sold under the name of the *Eagle Plow*, which are not genuine, this is to give notice that all plows sold in this city under that name, to ensure confidence, will have "Ruggles, Nourse, & Mason, Boston and Worcester, Mass.," and "A. B. Allen & Co., New York," marked on the beam, and no others, purchased here, can be relied upon as genuine without this brand.

Be particular, also, as to the name, number, and street, which should be

A. B. ALLEN & CO., 189 and 191 Water st., N. Y.

MINER'S EQUILATERAL BEE HIVE.

THIS is the most beautiful and practically valuable hive ever before offered to the public. It only needs to be seen in all its parts, to convince any man of its merits over anything of the kind in existence. Price \$5, with an individual right, and full engravings of it, with ample directions in pamphlet form to make the same; together with the right, as above, for \$2, only. Monies remitted by mail at our risk. Sent to any part of the United States or Canada.

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ALLEN'S FARM BOOK.

THE AMERICAN FARM BOOK, or compend of American Agriculture; being a practical treatise on soils, manures, draining, irrigation, grasses, grain, roots, fruits, cotton, tobacco, sugar cane, rice, and every staple product of the United States, with the best methods of planting, cultivating, and preparation for market. Illustrated by more than 100 engravings. By R. L. Allen, author of Diseases of "Domestic Animals," and editor of the "American Agriculturist." Published and for sale by C. M. SEXTON, 121 Fulton st., N. Y.

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A PRACTICAL Treatise on the Culture and Treatment of the Grape Vine; embracing its history, with directions for its treatment, in the United States of America, in the open air, and under glass structures with and without artificial heat, illustrated by views of Grape Houses, with minute descriptions of the manner of building, and warming them, and every little matter which could be supposed to occur to one unaccustomed to the subject. By J. Fiske Allen.

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FOR SALE, 5,000 bushels of bone dust, from 40 to 50 cents per bushel, according to quality.

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OF all sizes, bright or annealed, of the best quality, and at the lowest prices. For sale at the agricultural warehouse and seed store, by mh A. B. ALLEN & CO., 189 & 191, Water st.

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FOUR HUNDRED BARRELS OF FOUDETTE, of prime quality, direct from the manufacturers.

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THE AMERICAN BEE KEEPER'S MANUAL; being a practical treatise on the history and domestic economy of the honey bee, combining a full illustration of the whole subject, with the most approved methods of managing this insect through every branch of its culture, the result of many years' experience. By T. B. Miner. Embellished by thirty-five beautiful engravings. For sale by

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THE attention of Northern Farmers who wish to purchase in Fairfax County, Va., is invited particularly to two farms for sale, three miles east from Fairfax Court House, thirteen from Alexandria, and fourteen from the city of Washington. There are no buildings on either tract, but, by following the custom of the country, comfortable and temporary ones can be cheaply built. The soil is well adapted to farming purposes, and there is timber on them, near two sawmills.

These farms would sell in the north, for from \$50 to \$100 per acre, and can be bought here in a more pleasant and healthy climate, one for eight, the other ten dollars per acre, on easy terms, and a good title given.

Further information given, if requested, by T. R. Love, trustee, either personally, or by letter, (postage paid,) directed to Fairfax Court House, Va.

f. ff.

H. FULLER.

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GIN-GEAR SEGMENTS, of all sizes, furnished at short notice, at low prices.

BURR MILLSTONES of any size; PATENT BURR MILLS, from 12 to 30 inches in diameter; also, Nicholls' and Marsh's Burr Mills, 12 to 30 inches in diameter.

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FOR Sale, at Bating Hollow, Long Island, by

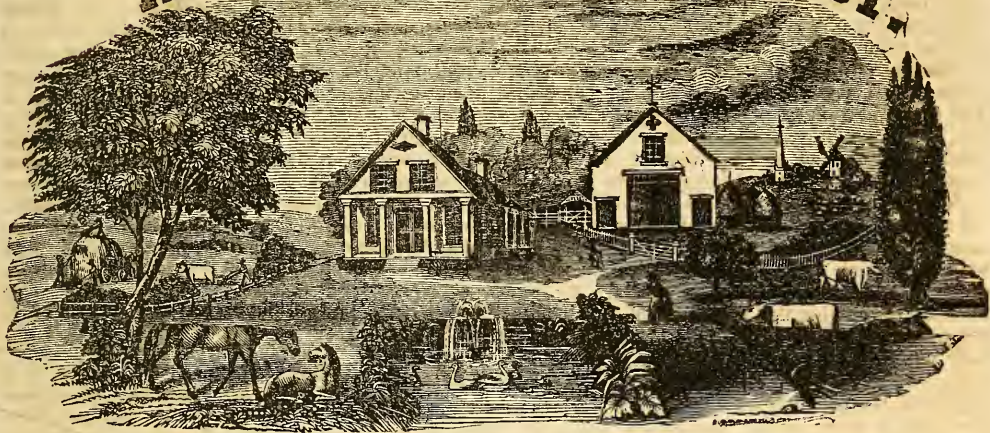
jay2t

AZEL DOWNS.

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AMERICAN AGRICULTURIST



Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

VOL. VIII.

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NO. V.

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OUR HINTS ON THE WORK FOR THE MONTH.

In our hints and directions on the work for each month, as plowing, sowing seeds, planting trees, &c., it will be observed that they do not, in all cases, appear to be adapted for the season. But when the wide extent of country is considered, to which these directions are presumed to apply, together with the variety of climates embraced, at a time, within its limits, it is obvious that discrepancies, in these respects, must unavoidably occur. For instance, in the southern parts of Florida, Louisiana, and of Texas, where frost seldom or never is known, the operations of planting, harvesting, &c., may generally be commenced at least a month *earlier* than in the northern parts of Carolina, Arkansas, and of Tennessee. Again, similar operations on the farm, in the southern parts of Virginia, Kentucky, and of Missouri, may be commenced a month or two earlier than in Maine, New Hampshire, Vermont, or in the northern part of New York.

Hence the necessity, in general directions like those under consideration, of adapting them to the most southern limits of the regions they are designed to be applied. If too early for the first of the month in which they are published, the sagacious husbandman can readily postpone them a few weeks, when nature and experience should alone be his guide.

WORK FOR MAY, NORTH AND WEST.

General Remarks.—Any work neglected to be done in April, or impracticable to be performed from the state of the climate, or the backwardness of the season, as directed in our last number, may be accomplished this month. Deep *spring plowing* may be done, *manures applied*, various kinds of crops *planted or sown*, *fruit trees and orchards manured and cleaned*, *lawns top-dressed*, *fences repaired*, &c., &c.

Felling Resinous Timber.—Any time during this month, or the next three months following, all kinds of pine, larch, and other resinous trees may be cut, as the pores of their wood will be filled with resin, which serves to increase the strength and durability of their timber. (See p. 23, of the current volume.)

Hauling and Securing Fuel.—As soon as your crops are all sown, and other business will allow you to attend to it, your fuel may be drawn, while dry, and stored in your wood sheds, or it may be neatly piled up, and covered over at the top with boards, in order to prevent future injury from wet.

Sowing Indian Corn for Soiling.—We cannot too often remind our readers of the great advantage of sowing corn for green fodder, where it is valuable, which is always the case in the vicinity of cities and the larger class of towns. By commencing the sowing of this corn each successive week or ten days till August, a constant supply of choice food will be secured during the remainder of the season, when it will be most wanted. The natural grasses of the pastures, when closely fed, begin to give out in July; and if the season prove dry, they frequently continue short for several months. A comparatively small quantity of land, richly supplied with manure, finely prepared and cultivated, will yield an immense quantity of sweet, nutritious fodder during this time of drought. From the experience of our best dairymen, an acre of corn, thus cultivated, will supply ample food for four cows during three months. It may be fed from racks or mangers in the yard, or in the stables, if they are not too warm; or, it may be scattered from a cart upon the ground, after which the cattle may be admitted, where they will devour the whole—stalks as well as the blades. If the fodder be wilted a few hours in the sun, previous to giving it to the animals, it is believed to be more wholesome and less likely to produce hoven, or wind in the bowels.

Planting Corn as a General Crop.—This, if not attended to last month, may be done this, according to the directions given at p. 153 of our third volume; or at p. 82, vol. vi.

Sowing Broom Corn.—The best soil for this plant is similar to that required for maize. It should be rich, warm, and not subject to early frosts, like the "intervals," or "bottoms," of the Connecticut, the Mohawk, the Sciota, &c. The best crops are usually raised on a green sward, turned over as late as possible in the fall to kill the worms. But if the land be poor, it must be enriched by a liberal supply of well-decomposed farmyard dung, with additions of guano, plaster, oyster-shell lime, or poudrette. It should be planted as early as the 15th of this month, in hills, about two by three feet apart. If the seed be good, drop 15 or 20 of them into each hill, and cover them from an inch to an inch and a half deep.

When properly cultivated, and brought in good condition to the New-York market, broom corn, of the best quality, will sell for \$160 to \$250 per ton.

Planting Potatoes as a General Crop.—The sooner this is done the better, as early-planted

potatoes are considered more secure against the rot. For full and complete directions for planting and securing this crop, see pp. 155 and 156 of our seventh, and p. 55 of the current volume.

Sheep-shearing and Sacking Wool.—This should not be done sooner than the season will admit, as the sheep would be in danger of taking cold. Wool, intended to be sent to a distant market, may be put up and pressed in bales after the manner of cotton, or it may be crowded into sacks holding from 200 to 250 lbs. If designed to be shipped on a long voyage, it would be more economical to press it into square bales, as it would then occupy less bulk, and consequently effect a saving of freight. But in the interior of a country where conveniences for baling are not always at hand, sacks may be employed, made of 40-inch "burlaps," or 45-inch "gunny cloth," 7½ feet long. Each of these sacks may be made of a piece of cloth 5 yards in length, by doubling it thus until they meet, and sewing up the sides with twine.

The mouth of a sack may be next sewed to a strong hoop of wood or iron (diameter 25 inches for the burlaps, and 28 inches for the gunny cloth), then let down its body through a circular hole, two inches less in diameter than the hoop, cut in an upper floor of a building, or of a temporary scaffold erected for the purpose, where it can swing clear beneath. One man may then get into the sack, while another hands him the fleeces, which he should place in regular layers, pressing them down in the meantime, with his feet, until it is filled. After this, the sack may be slightly raised, the hoop disengaged, the mouth of the sack sewed up with twine, and the operation is complete.

Milking Cows.—Let care be taken that your cows are milked clean; the last milk is much the best; and besides, cows are often spoiled by careless neglect.

Kitchen Garden.—In the fore part of this month, all the early cucumbers, melons, cabbages, cauliflower, lettuce, radishes, &c., which have not been taken out of the hot beds, should be removed, and planted in open ground. The seeds of all kinds of table vegetables, such as peas, beans, beets, carrots, onions, parsnips, and esculent herbs should be sown early. Tomatoes, egg plants, peppers, &c., can also be planted out.

Fruit Garden and Orchard.—All kinds of northern fruit trees that have not leaved out, may be transplanted, and spring inoculation may still be performed in the early part of this month. Strawberry beds may be planted, and last month's suggestions for pruning observed.

Flower Garden and Ornamental Grounds.—The borders of the flower garden should now be finished, and herbaceous perennials transplanted. Plant annual, biennial, and perennial flower seeds; also, bulbs and tubers. Transplant ornamental trees and shrubs and box edging early this month. Trim hedges and shrubs. Top-dress lawns. Put in order gravel walks.

Care of Implements and Tools.—An item of great importance to the husbandman, is to adopt, as early as possible, the best and most highly-improved farming tools and labor-saving machines, as much is lost by employing poor ones. Every im-

plement and machine should have a place, when not in use; and as soon as they are done with for the season, they should carefully be laid away and housed. This will not only save time and labor in hunting them up, but they will be in better condition when required again for use.

WORK FOR MAY, SOUTH.

General Remarks.—This is considered the most important month in the whole year, when we take into account the cultivation of the young growing crops; because much of the future labor will depend on the quality and quantity of the work done now. If it be well done, as it should be, the crops will not so soon become foul; and if much of it be done, the planter will be able to receive an earlier return.

Working Cotton Fields.—Young cotton plants must be cleaned out as soon as practicable after the first leaves are developed with the sweep cultivator and hand hoe.

Weeding Corn.—Keep your corn fields in good order, and free from weeds.

Cane Fields.—See that your cane fields are kept clean, and as soon as the plants have grown about 18 inches high, a small quantity of earth should be drawn towards them; and in the course of the two succeeding dressings, a bed should be formed for them five or six inches in depth.

Tobacco Plants.—The earth around these should frequently be stirred with the plow, cultivator, or hoe, and kept free from weeds. As soon as the plants are sufficiently large, they should be primed, topped, suckered, and wormed.

Harvesting Winter Grain.—Most of the winter grain that was sown in October last, will require harvesting this month. That to be used for feeding stock should be cut just before it begins to turn yellow; but that left for flour should be cut when the grains are in the milk.

Silk Cocoons.—Silkworms will have wound their cocoons from the 1st to the 20th of this month. Those you wish to reel, may be left in the hot sun a day or two, or they may be exposed a few hours in an oven or kiln, heated sufficiently warm to cause bees' wax to melt. Those intended to produce eggs for the next crop, must be selected and placed on sheets of moist paper, in a cool, dark room. From 100 to 120 pairs of millers will produce an ounce of eggs. Each female lays from 300 to 500 eggs, averaging about 350. An ounce of eggs contains about 40,000. If well saved from good millers, and safely kept, they will nearly all hatch and produce good worms. Our climate is admirably adapted to the production of the silk worm, as is shown by the fact, that while an average of 30 to 60 per cent. of the worms are lost in Europe, from climate, food, and disease, scarcely five per cent. are lost in this country.

Kitchen Garden.—Plant endive, shalots, lentils, peppers, and generally all that is recommended for April. "The old gardeners of the country," says Mr. Dinn, "pretend that nothing will come to perfection if sown in this month." But, from sixteen years' experience at New Orleans, he feels justified in stating that the plants require only to be set further apart, because they grow more vigorously on account of the increased flow of the sap.

Fruit Garden, Shrubbery, &c.—Keep the earth loose and clean around your grape vines. Plant and water cuttings of Cape jasmines.

EFFECTS OF CASTRATION ON ANIMALS.

THERE are several circumstances and principles connected with the castration, or emasculation, of domestic animals, which, if duly considered, and judiciously carried out, doubtless, would have an important bearing on the economy and improvement of our dairies, the quality of our meats, and perhaps, in the staple of our wool; and it is in reference to these questions that the following hints are offered, not as established facts, however, but for the purpose of eliciting attention and further inquiry on the subject:—

It is well known that the bull, when emasculated at an early age, partakes of a very different form and character from that which he possesses when left uncastrated. He grows to a larger size; his neck, head, and horns are of a different shape; his hair is finer and less curly on the head; his meat, when cooked, is more tender and savory; and his disposition becomes almost entirely changed. Similar features may also be noticed in the castration of the horse, the ram, the boar, the cock, the dog, the cat, the squirrel, &c. From the observations of a distinguished veterinary surgeon, of the British army, who practised ten years in India, it appears that the hair of the horse, when cut in cold weather, ever after is rough, and changes from a stiff, uniform calibre, to one that is irregular and fine. It also increases in number as well as in length. The hoofs of the horse, after castration, he says, become more solid and firm. He further affirms that, if a young stallion has a tendency to have a "bull neck," it may be checked by castration; and that geldings generally grow larger, with the same keeping, than studs, and are more gentle in their disposition.

Similar facts are also observable, as far as our knowledge extends, in the "spaying" or castration, of females. For instance, the effects of castration upon the cow, for 15 or 20 years' experience in France, seems to be that it increases the product of her milk one third, at an age of six or eight years, after which there is generally a regular and constant supply until death; that the milk is richer than that of the cow in her ordinary state, and consequently yields more butter, which is of a superior flavor, taste, and color; and that, when the milk fails, or one wishes to part with her, the cow has a greater disposition to fatten. Furthermore, as the cow will not procreate, all the accidents attending gestation, parturition, &c., are of course avoided; and to those who keep cows for milk, only, and to whom the loss of several months, in being dry and in suckling their calves, is of no small moment, an operation of this kind upon these animals would greatly increase their value.

The effects of castration upon the common dunghill cock must be familiar to all who have observed the large capons often exposed for sale; and we have reason to believe, that, if a similar operation were performed on other kinds of domestic poultry, both male and female, a corresponding advantage would be gained.

B.

New York, April, 1849.

THE COW—HER DISEASES AND MANAGEMENT.— No. 12.

Milk Fever.—This is one of the most dangerous diseases to which the cow is heir to, and unless timely relieved, very soon proves fatal. It is caused by whatever obstructs perspiration, and accumulates the blood internally; hence, it may be produced by the application of cold air, by laying on the cold ground, or by giving cold water immediately after calving; and these causes will naturally produce this effect, from the open state of the pores at this time, and from the external parts being so wide and relaxed after that operation. Cows in high condition are more subject to this complaint than others, especially if they have been kept up for some weeks before calving.

The symptoms begin to show themselves the first, second, or third day after calving, but most frequently the first day, and that often as early as two hours after the delivery. They may be known by the cow shifting about from place to place; she frequently lifts up her legs and then sets them down again; discovers a wild appearance in her eyes, and sometimes blares, as if wanting her calf. At this time, she is very ready, on a person going up to her, to give him a poke. As the disease progresses, there ensues a quick motion in the flank, and if confined in a stall, she begins to stagger from side to side, with open mouth, from which issues a clear water, and her tongue, at this time, is thrust out a considerable length. After staggering some little time, she falls down, but recovers herself again, and continues to do so until she is no longer able to get up, and seems entirely to lose the use of her limbs. She then throws herself on her side, with her head inclined to her fore ribs. The body, at this period, sometimes begins to swell; and when the malady is still further advanced, the extremities, and the roots of the horns and ears feel cold, the latter being covered with a clammy sweat. What passes through the animal is black and dry; she frequently strikes with her fore and hind legs; her eyes appear dull and heavy; and her breath emits a faint and sickly smell. Her restlessness gradually increases; she is covered with cold sweat; her extremities are seized with a shivering; the pulse becomes irregular, and death terminates the scene.

If the cow be in very high condition, she should first be bled, to the quantity of two to three quarts, if she can bear it, and the following mixture given as soon after as possible, at one dose, in three quarts of gruel in which two ounces of soap have previously been dissolved:—

Epsom salts, $1\frac{1}{2}$ lbs.; althæa ointment, 3 oz.; saltpetre, $\frac{3}{4}$ oz.; powdered fenugreek, $1\frac{1}{2}$ oz.; powdered mustard seed, $1\frac{1}{2}$ oz.

As soon as this medicine is given, the cow should be "raked," (the removal of the dung from the rectum,) and the following glyster administered in two quarts of water gruel:—

Common soap, 1 oz.; common salt, a handful; sweet oil, $\frac{3}{4}$ pint.

The soap being first dissolved in the gruel, mix the whole together, and inject, with a common glyster pipe and bag, into the rectum. As soon as the drink and glyster are given, the animal, if

she lies on her side, must be turned on her belly, and well bolstered up with straw, to prevent her from getting into her former situation; for, by lying in that position, the swelling of the body will increase, nor will the medicine operate so soon as when resting on her belly; neither in this posture should she lie too long, but be turned over occasionally, to prevent her limbs getting cramped. This change of position will also assist in expelling the wind, as well as in promoting the operation of the medicine. It will likewise be useful to rub the limbs and body two or three times a day.

Whatever else is given the animal in this disease, should be administered with caution; for she swallows with some difficulty, and is in danger of being choked; in consequence of which, there should be a proper interval between each hornful of medicine. In six or eight hours after taking the above, the following dose may be repeated every six hours until a change for the better takes place, to be given in a quart of ale or strong beer, with a little allspice:—

Gum myrrh, $\frac{3}{4}$ oz.; powdered valerian, $\frac{3}{4}$ oz.; assafetida, 3 drachms; saffron, 3 drachms; camphor, $\frac{3}{4}$ drachm; opium, $\frac{3}{4}$ drachm; mustard seed, $\frac{3}{4}$ oz.; saltpetre, $\frac{3}{4}$ oz.

When the disease is turned, and the cow begins to eat and drink a little, which is always a sure sign of her recovery, and generally occurs within twenty-four hours after the attack, (if she survives at all,) and sometimes sooner, the following medicine may be given, at one dose, in a pint of mild ale, or in a strong decoction of camomile tea, to be repeated once or twice a-day, if necessary, till she recovers:—

Camphor, $\frac{3}{4}$ drachm; saffron, 3 drachms; saltpetre, 3 drachms; gentian, $\frac{3}{4}$ oz.; valerian, $\frac{3}{4}$ oz.; Jesuits' bark, $\frac{3}{4}$ oz.

After two or three doses have been administered, if the animal mends very fast in her appetite and strength, one every other day may be sufficient. Should great debility ensue after the fever has disappeared, which is sometimes the case, an ounce of isinglass, boiled in skim milk, may be given once or twice a-day, which will also be found extremely useful in assisting to strengthen the relaxed system.

If, however, after forty-eight hours, the cow should still be incapable of getting up, although her appetite may be good, and she appears lively, the following "charge" should be laid on her loins, as the weakness exists more in those parts than in any others; for she can generally raise herself on her fore legs, while her hinder parts seem useless:—

Take black and Burgundy pitch, $\frac{1}{2}$ lb. each; oxycroceum and Paracelsus plasters, 2 oz. each; bole Armenian and dragon's blood, 1 oz. each.

To be melted over a slow fire. This charge should be spread while hot, but not so hot as to scald, all over the loins and rump. Some saddler's stuffing or wool should be stuck on it, to keep it in its place. As soon as this is completed, the cow must be got up, and put into a sling, made of sacking and ropes, so that she can feel the floor with her legs, which are to be well rubbed two or three times a-day. In this situation, she must remain until she can stand of herself, and get up without

the aid of the sling, which will generally be the case in two or three days.

Should the cow remain costive, from the continuance of the fever, which is sometimes the case, for several days, doses of one half of the preceding purgative may be repeated at proper intervals, until a passage is procured. Moderate bleeding and purging, before calving, with suitable food, will generally prevent this disease. But when this has been done, and the complaint comes on, the subsequent quantity of blood to be drawn, and the doses of medicine given, must be correspondingly diminished.

During the continuance of the fever, the cow requires little or no food; but if any is given her, it should consist of warm water or water gruel, a hornful of which may be occasionally administered, if she will not drink it of her own accord; and whenever she seems inclined to eat, bran, Indian meal and malt mashies are most proper, with now and then a little sweet clover or other hay, laid before her in small quantities at a time, which should be gradually increased till she can eat her usual allowance, and her stomach is capable of bearing it. But over-loading the stomach should at all times be avoided, as disagreeable consequences are liable to ensue therefrom.

REARING CALVES—REPLY TO REVIEWER.

In noticing the remarks of Reviewer, at p. 246, in your seventh volume, on an article previously written by me, on the "Management of Calves," I have been led to address you again on the subject. Notwithstanding his general display of good sense, I am still of the opinion that the smallest calves invariably grow up to the finest animals; and I venture to say, that, what he would call "a runt of a calf," when fully grown, would far exceed one of the same breed, that was the largest and the finest looking when first dropped from the cow.

I am also convinced that raising calves on the richest food, neither improves their symmetry nor their quality, only to the eye of an inexperienced person. No reasonable man expects to see a lot of store cattle fit for the butcher. Still, I am willing to admit that an animal forced from its birth until five years old, will add much to its size, and excite the *wonder* and *admiration* of judges and spectators on show grounds; but I cannot admit that such an animal is a profitable one. I am certain that many a breeder, by adopting this *forcing system*, has not only ruined his reputation, as a breeder, but has actually lost money, even when his animals have been sold at high prices. The kind of food consumed, and the time and care required for such an animal to develop itself, costs far more than such a breeder is willing to place to its debit. Nor can I reconcile myself to a large beast of any kind for profit. I will appeal to any practical breeder, who has tried the experiment of raising fat heifer calves, whether they have proved the best milkers.

Again, flesh will very much diminish, the milk vessels in the early stage of their growth, from which, I feel assured they will never recover; but when a cow has been economically brought up, and the milk vessels have once been fully developed, they will never deteriorate. Such a cow

will hold out much longer than the forced animal, and will give an increased quantity of milk. I hope Reviewer will try this, and then state the result of his experiment. On the other hand, a forced bull, after three or four years old, generally becomes useless for service.

The fashion, of late, for overgrown animals, has been so ragingly prevalent, that symmetry and quality have been very much overlooked, and such breeders now find themselves in a labyrinth, surrounded by a coarseness, raggedness, hardness, and shapelessness, in their animals, from which they cannot extricate themselves. I would advise such breeders to dispose of their stock, and commence a new career, by selecting a herd possessing symmetry and quality, and let size evaporate in the atmosphere with the rest of the grasses.

I was very much amused at a large calf shown last fall, at the State Fair at Buffalo, called by the owner a shorthorn. When he walked, you might have seen his shoulder blades work as loosely as possible above his crop, which was as hollow as you can imagine. He had an exorbitant paunch, was coarse in the bone, narrow at the hips, and his carcass was covered with flabby flesh of the very worst quality. Had I been a shorthorn man, I would have preferred a Buffalo amongst my herd. For then, I would have had something extraordinary. This calf was sold for \$100, and the owner was very much *offended* because he did not gain the first premium. But the judges had too much sense to notice him. He had been forced the whole of the summer entirely for the show, and to sell. It must have been an inexperienced farmer that purchased this animal, and not a shorthorn breeder. I think he will have some difficulty in disposing his offspring; and I should like to see this farmer and the calf together, after he has wintered him on hay, so that he might point out to me his beautiful symmetry. As I have said before, it takes all kinds of animals to make a world. Therefore, there must be *large calves* as well as *great men*.

W. H. SOTHAM.

Black Rock, N. Y. Feb. 18th, 1849.

EXPERIMENTS WITH POTATOES.

For several seasons in succession, a few years ago, we tried various experiments on our farm, in the cultivation of potatoes; one of which was for the purpose of ascertaining which was best and most economical, to plant cut tubers, small potatoes, or those of large or medium size. It would take a longer article than we now have time to write, to give all the particulars of these experiments; but the result was, either cut potatoes or small ones, produced as great a yield, and as large tubers, as medium-sized or large seed, except when the season was rather a wet and very growing one; and then, the latter produced the largest crop. The only additional value which we found in large-sized tubers over small ones, was, that the decomposition of the former produced food for the growing crop. But if the season proved rather dry, than otherwise, the seed would not rot; consequently it afforded no advantage to the growing crop over small seed. Judging from these experiments, all that is necessary to grow a good crop of potatoes, is, an eye, with sufficiency of the tuber attached to

cause it to sprout ; a good soil, or one well manured, and a growing season.

These remarks are made with reference to the absence of the *rot*. While this is prevalent, we think it safest to rely exclusively on planting the whole tuber, which should of course be sound, and of medium size. At the time of planting, put about a pint of oyster-shell lime directly on the seed, and then cover. All who have adopted this method, so far as we have heard, have not only been exempt from the *rot*, but have grown good crops of a superior quality.

MINER'S PATENT EQUILATERAL BEE HIVE.

THE prominent advantages of this hive are the ease of managing the bees in the boxes within the supers. By a simple and original contrivance, all the trouble and danger of drawing out boxes from chamber-bored hives is obviated, and the bees are not aroused nor excited in the least. The *beaded* bottom board is another feature of advantage ; and the manner of giving ingress and egress, on all sides, during the summer season, and the manner of let-

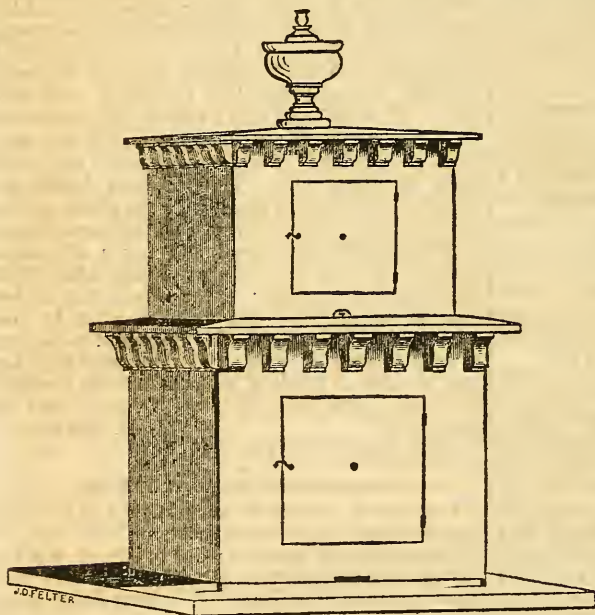


FIG. 36.

ting the hive down to pass the winter, with two small openings only, for the use of the bees, one in front, and the other in the rear, &c., with other advantages that are of great importance, together with its architectural beauty, commend it to the consideration of the public. For prices, &c., see advertisement at p. 167 of the present number.

THE LANGUAGE OF NATURE.—The pages of the bright volume of Creation, that are daily and hourly unrolled before us, are "written," to use the impressive words of Lord Bacon, "in the only language which hath gone forth to the ends of the world, unaffected by the confusion of Babel."

ADULTERATION OF FOOD.—No. 11.

ALTHOUGH not considered, strictly speaking, as articles of food, there are several liquors, or drinks, employed in domestic economy, in which adulterations are practised by the manufacturers and vendors, that we shall next endeavor to point out, with the view of putting our readers on their guard, and checking, in some measure, the evils attending this nefarious traffic.

Cider.—This beverage is frequently mixed with various substances for improving the color ; but as these are generally innocuous in their character, it is not deemed of sufficient importance to notice them here. After being kept some time, or when it has been fermented in too high a temperature, cider contains such a quantity of acetic acid, that it cannot conveniently be drunk, unless some means be taken to get rid of the excess of acid. This is usually done by the addition of lime, chalk, or pearlashes, which are comparatively harmless ; but the worst of all frauds practised on this drink, is the application of litharge, ceruse, or sugar of lead, for the purpose of correcting acidity. These substances are all poisonous, and the reader need not be told that when taken into the stomach, they are most deadly in their effect.

Porter, Ale, and Beer.—These fluids, perhaps, as a prepared beverage, are the most general in use, and, indeed, when made exclusively of malt, hops, sugar, and water they become, at once, as expressed by M. Dumas, "a healthful, refreshing, and even a nourishing drink ;" yet, it is much to be regretted that they should be subject to more heinous and more wicked adulterations than any other articles in commerce, notwithstanding stringent laws have been enacted in various countries to check these frauds and punish the offenders.

We think we can no better describe this wholesale method of administering slow poisons, than by transferring to our columns the following narration supposed to have been related by an old, ruined, broken-down grogseller, to an audience collected in a low, drinking house :—"In the first place," said he, "the brewer adulterates to save his malt ; then the publican, (vendor,) adulterates it to increase its quantity. His business is to make one butt of beer into two, aye, and sometimes three. Ha! ha! Now, how do you think he does it? He deluges it with water ; then, of course, it is so weak and flat, that no one can possibly drink it. It wants alcohol, or spirit, in it ; it wants the bitter flavor : it wants pungency ; it wants age ; and it wants froth. All these are supplied by adulteration. *Cocculus indicus*, henbane, opium, and Bohemian rosemary are used instead of alcohol. These are all poisons ; and the Bohemian rosemary is of so deadly a nature, that a small sprig produces a raving intoxication. Ha! ha! That's good so far! Then aloes, quassia, wormwood, and gentian supply the place of hops, and give bitterness to the

* * * * broth. Ginger, cassia buds, and capsicum produce pungency. Treacle, tobacco juice, and burnt sugar give it color. Oil of vitriol, (sulphuric acid,) not only makes it transparent, but also imparts to it the taste of age. So that, a butt so doctored, immediately seems to be two years old. I need not tell you what sort of a poison oil of vitriol is. I don't want to suggest the means of suicide. Ha! ha! But when the beer has gone so far, it wants the 'heading'—that froth, you know, which all fancy to be a proof of good beer. Alum, copperas, and salt of tartar, (sub-carbonate of potassa,) will raise you as nice a 'heading' as ever you'd wish to dip your lips in. * * * But there's a dozen other ingredients that go into the stuff you lap up so pleasantly, and pay for as beer. What do you think of extracts of poppies, coriander, nux vomica, black extract, (extract of cocculus indicus,) Leghorn juice, and bitter bean? But all these names are Greek to you. They ain't to the publicans though. Ha! ha! Why, half the poor people that go to the lunatic asylums are sent there by the poison called beer."

Beer or porter, which is entirely free from drugs, and has not been in the hands of those who are willing to sacrifice the health and lives of their fellow beings for the sake of adding a small amount to their yearly gains, when taken in moderate quantities, merely invigorates and bestows a generous tone to the constitution, without producing that degree of lassitude or prostration, accompanied by headache, that invariably follow the drinking of the spurious fluid.

AGRICULTURAL TOUR SOUTH AND WEST.—No. 5.

Visit to the Plantations of Louisiana.—Directly after leaving Baton Rouge, down the Mississippi, we pass a long reach of uncultivated wooded tract, belonging to Mr. John McDonough, of New Orleans, who, like many other land misers in this country, appears to buy to keep—not to cultivate. Then comes the plantation of the lamented Mr. Chambers, who was recently crushed to death in his sugar mill, in consequence of entangling his coat in one of the ponderous iron wheels. To-day, (December 15th,) I noticed a gang of negroes gathering cane from the windrows, and carting it to the mill. No cane is to be seen standing here, having all been cut for fear of frost.

The next plantations we meet with, are those of Col. S. Henderson, Madame Williams, and of Col. Philip Hickey. The latter gentleman has raised sugar upon his place thirty-five years. In 1817, his father sold his crop of sugar for 11 cents per pound, and his cotton for 30 cents. On the 19th of October, 1813, the frost killed all his cane. Sugar was worth, that year, 12 cents per pound. In 1814, he was offered two pounds of - they were of sugar, but while loading him, and he lost pressed into the surface of the ground. He realized 60 cents per pound for his cotton, which would have made 12 cents per pound for the sugar. Col. H. is of opinion that bagasse, (the refuse unfit for manure until it has been rotted down a number of years. The best way to dispose of it he thinks is to use it as fuel.

A couple of miles below, is the plantation of F. D. Conrad, Esq., of which I shall have much to say hereafter. In front of his house is an extensive batture. A batture, is a recent formation of land by deposit from the muddy water of floods, until it gradually rises so far above low-water mark as to make good pasture land, and at length is inclosed by a levee for cultivation. Mr. C. has some 70 or 80 head of horned cattle, among which are some very good shorthorns for this part of the country, though not at all to be compared to this breed at the north. He also has a flock of some 150 sheep that are much above the average quality of the south.

In his lawn in front of his house, Mr. C. has had the good taste to plant specimens of all the forest trees native to his region, among which I noticed the live oak, the water oak, the willow oak, the white oak, the yellow oak, the chincapin oak, the cypress, the sycamore, (Platanus,) red elm, slippery elm, sweet gum, (Liquidambar,) cotton wood, pecan nut, white ash, hackberry, and many others. To these might be added the pride of China, now almost ever present upon every plantation of the south.

About one half of the planters along my ride to-day have done grinding, (or, "rolling," as it is most commonly called,) their cane, while others have suspended operations on account of the long-continued rains that have fallen of late.

I passed the night with Mr. William B. Walker, son-in-law and partner of Mr. Johnson, whom I mentioned as having abandoned his cotton lands, and put his negroes to raising sugar. Mr. W. has great faith in the opinion that bagasse cannot be disposed of in any way so economically as in the chimneys. He thinks that manure is an injury to his land rather than a benefit. Three years ago, he manured a field of sweet potatoes which all run to vines. The next year, he planted the same ground with sugar cane, which grew large and watery, and lodged so badly that the yield was not so good as upon the land adjoining, that never had been manured.

Noticing some very pure water on the table, and knowing that the river was very muddy just now, I inquired how it was purified. This I found was done by pounding a handful of pear-kernels and throwing them into a cask of water, which soon caused it to settle. Almond-kernels will effect the same.

At Iberville Church, December 16th, I saw the first growing sugar-cane on the estate of Dr. Pritchard, who came from Connecticut about 30 years ago, a beautiful residence, and an excellent plantation, which is kept in admirable good order. For several miles below Dr. P., the coast is lined with small planters, a few of whom try to make a little crop of sugar with the old primitive horse mill, which is as great a contrast to the modern steam mill, as the people are to the modern class of sugar planters.

To-day, December 18th, I dined with Mr. Robert C. Camp, who keeps from 200 to 500 sheep for the purpose of feeding mutton to his people, which he finds a very healthy diet. The wool is quite a secondary object with him, as it is with nearly all

who keep sheep along the banks of the Mississippi, some of whom actually give it away for shearing, boarding the shearers in the bargain. Mr. C. has always found his flock healthy, except the foot rot. The sheep also increase very rapidly all along this coast, as they breed freely at all seasons of the year. It may seem surprising to the people east, that planters do not raise more sheep for mutton, even if the wool is not worth saving; but the fact is, mutton is altogether too light a diet for negroes. They want nothing more delicate than good, fat mess pork.

The next place below Mr. Camp's, that I visited, belongs to the Messrs. Tilotson. From the river to their sugar house, a distance of two miles and a quarter, they have laid down a cedar railway, at a cost of \$2,500, for the purpose of conveying their sugar and molasses for shipment. But whether it will prove profitable is a mooted point. Others have tried the like, and have given it up as a bad job. These gentlemen having been brought up in a hay country at the north, think that they cannot do without dry fodder here. So, every winter, they put in some 30 acres of oats, harrowing the ground smooth at the time of sowing, and after the oats are harvested, they obtain a spontaneous crop of crab-grass hay, which is very good, if mowed early, being the only kind of grass that they can cultivate with advantage.

After leaving Messrs. Tilotsons, December 19th, I passed several very fine places, among which were those of William Miner, John Miner, Henry Dogal, (one of the oldest, largest, and most successful sugar planters in the state,) Duncan F. Kenner, and of General H. B. Trist, brother to the much celebrated "Don Nicholas," of Mexican treaty memory. General T. is not one of those who think it useless to read agricultural works, because they happen to be printed at the north; but, on the contrary, his library is well stored with such publications as it is for the interest of the sugar planter to consult. SOLON ROBINSON.

THE DOG DISTEMPER.—We are asked by a correspondent for a recipe to cure the dog distemper. He might, with about the same propriety, require of us a prescription for the bilious fever or the cholera; for two dogs are affected exactly alike, and what would be beneficial in one stage of the disease, would be injurious, perhaps, in another. Cooling, and slightly-purgative medicines, as sulphur and castor oil, are in some cases best; in others, emetics and astringent medicines. Eleven years ago, the past winter, we cured a female spaniel bitch, by giving her from three to five grains of powdered antimony, night and morning; and three months ago, a noble Newfoundland pup of ours, seven months old, we cured in a week, by giving him sixteen grains of sulphur, mixed with a gill of warm milk, and administered night and morning. His food, during this time, was principally milk gruel. We advise our correspondent to consult his physician, or some reliable work on the diseases of the dog.

VIRTUES OF HEMP.—By its cordage, ships are guided, bells are rung, beds are corded, and rogues kept in awe. —*Coviles.*

POTATO DISEASE—HOW REMEDIED.

THE researches of intelligent and scientific men have been attended apparently with no success in their indefatigable pursuit for the causes of the potato rot. It is no part of our intention to examine the question at this time, but simply to make two or three of the most obvious and practical suggestions.

That the recent prevalent and fatal disease is the result of long-continued, artificial cultivation, cannot admit of doubt. That it has been, and still is, induced or augmented by the use of putrescent or barnyard manures, is in the highest degree probable. When the potato, like any other vegetable, is in a healthy condition, and sustaining a vigorous growth, there is no danger of disease from the presence of putrescent manures. But when the seed lies dormant in the earth before vegetation has commenced, and especially when the freshly-cut, moist, absorbent vessels are lying in immediate contact with the putrid, decomposing manure, there may, and under many circumstances, must be injury to the forthcoming plant; and again, when, from any cause, the progress of vegetation is arrested in the summer, or when growth has ceased in the autumn, the presence of these decomposing vegetable and animal matters may prejudicially affect these fleshy, sensitive tubers. The combined effects of this cause through successive ages of cultivation, have doubtless produced the present tendency to disease. Some atmospheric or other causes, which, under other circumstances would have been perfectly harmless, have kindled contagion in this susceptible mass, and sent destruction over every region where the plant is cultivated. Had it been in a healthy, vigorous condition, the cause which now produces decay might have fallen innocuous upon our fields; or like the cold blast which fastens a rapidly-wasting disease upon the consumptive man, it would serve only to freshen and invigorate a sound constitution. We believe there is a weakness or want of stamina in the whole potato race, and that there is no empiricism, no quick medicaments, which, acting like a vomit or cathartic on the human frame, will purge the vegetable system of what has become hereditary tendency to disease.

The cure for this must be gradual. Gentle tonics must be administered to the enfeebled plant, till it regains its former hardiness and strength. These, we think, must be found principally in fresh, rich turf, or sod, (old meadows or pastures,) and in the exclusive use of saline manures. Keep from the potato field every particle of putrescent—organic manure—whatever has once been a portion of vegetable or animal, and which is now passing more or less rapidly to decay, and which may sickly manifest a corresponding sympathy from the rapid carbonization that, too, to join it in its conservative manure. Instead of these, use nature it is to arrest the decay of a part of whose ashes from either coals or a part of whose ash, bone dust, (which, wood, lime, plaster, pot-matter by calcination, is nothing of its animal old bricks and mortar, burnt clay mineral salt,) peat or wood, marl or green sand may be coal from singly or in judicious combination, as the soil may require.

Let our farmers use good, uncut, sound seed, properly harvested and preserved, (of which more hereafter,) in wide drills, on land plowed deep and used for this purpose as seldom as possible; and make a proper application of some or all of the above-named manures, and especially of fresh lime, and we are morally certain of a mitigation of the potato rot, and probably, if the plan were universally pursued, of its final extinction. We hope that careful experiments will be made the coming season, by intelligent, observing farmers, and that they will hereafter communicate the results to the agricultural public. Perhaps some enterprising farmers may find it not only for the public interest but his own, to devote his fields to the rearing of the potato exclusively for seed; and that those who prefer to secure a larger crop by the use of fermenting manures, may sell or consume their entire crop, and thus avoid perpetuating decay, while they could secure a comparatively healthy seed for re-planting, from these carefully cultivated fields.

TO GROW FINE PEARS.

A CORRESPONDENT asks us the following questions:—Are iron filings or turnings, such as are found at the machine shops, suitable to be put around pear trees when little or no iron exists in the soil? How much should be applied to each tree? Is the application invariably beneficial?

The smaller the particles of iron applied, of course the better, as they decompose more rapidly. If a tree be about four years old, apply one quart; if full grown, eight to sixteen quarts, according to the size. Age and size of intermediate trees, will give the proper quantity to be applied between these extremes.

We deem it proper, however, to say to our correspondent, that many contend that iron applied as above does not benefit either tree or fruit. Iron slag is frequently put around the bodies of peach and other trees to guard them from the borer and other insects. But spent tan bark, broken stone, brick, or oyster-shell lime, we suppose, would be just as beneficial, as the action is merely mechanical. We wish our readers would make some experiments with iron filings or turnings, by applying them to fruit trees, and give us the result.

Are lime, charcoal, and ashes necessary? And if so, how much of each should be applied per tree?

If the ground be newly cleared of forest, it will usually contain potash and carbon enough to grow trees rapidly, and produce an abundance of fruit for a series of years. The same may be said of lime in a limestone region. But if these do not abound in the soil, they must be added. From four quarts to two bushels of each is enough to apply in any one year, depending on the age and size of the tree, and something, also, on the quality of the soil. Rotten and decayed wood will, in part, supply the place of charcoal and ashes; but the objection to it is, that it harbors grubs and insects, which are injurious both to tree and fruit; whereas, if ashes are unleached, they are destructive to most insects. The same may be said of lime, particularly in its caustic state.

In addition to the above, we will say to our correspondent, that it would be best to plow or spade

the earth around the trees, from the trunk to a little beyond the spread of the roots, before applying the above-named substances; and in doing this, be very careful not to injure the roots. The lime, ashes, &c., should be applied mainly within the circle of the extreme spread of the roots. Some portion, however, should be spread over the space between this and the trunk of the tree, and a little beyond the extension of the roots. He will, as a matter of course, understand, that, if his soil is not rich, he must dress it abundantly with peat, muck, and barnyard manure, or other fertilizing substances; and avoid taking a grain crop from the orchard when in bearing, or keeping it in grass over three or four years at a time.

DOMESTIC FISH PONDS.

WE are surprised our country friends do not pay more attention to the subject of fish ponds. Many of them have, on some part of their estates, either natural ponds, or small streams running through narrow valleys, which may be dammed at a trifling expense, and occupy but a comparatively small surface of land, and which, in many cases, is entirely worthless. These ponds should be fed with living streams or springs. The former are preferable, as they bring to the pond supplies of seeds, vegetables, roots, mud, &c., on which many of the finny tribes subsist. Aquatic plants, insects of various kinds, and infusoræ are also soon generated in the pond, and supply them with an adequate amount of food. Wherever this is deficient for the inmates, artificial food may be added, as bread, decayed grains, vegetables, meat, and the like. They may be soon taught to come at call, as by the tinkling of a bell, the blast of a horn, the beat of drum, or some musical instruments, and they will thus gather round their food as soon as thrown in. Many species of fish subsist entirely by suction, as the shad, the sucker, &c.; and it is policy to have separate ponds for such of these as may be wanted for use. Others, and by far the larger part, are predatory, and subsists almost entirely on other fish, as the pike, pickerel, &c., and these require a stock of smaller fry to supply them adequately with food.

Some experiments have been made with the shad and other salt-water fish in acclimatizing them in fresh water, and with entire success. A friend, who has several fish ponds on his estate on the Hudson, says they have bred with him the second year they were placed there. He occasionally supplied them with salt, when they would come about the deposit, and seem to enjoy the brackish water while the salt remained. When deprived of this, some of the original shad died; but, whether owing to this or some other cause, it is not certain. The younger ones seem to thrive in water entirely fresh. He has also domesticated several kinds of fresh-water fish, some of which have been imported from the European waters, as the carp and tench, but most of them are the best varieties from our inland lakes. Some of them have become such pets, and so familiarly answer to his call, that he has a great repugnance in preparing them for his table, though his friends to whom he frequently sends them, have no such scruples, and pronounce them delicious. He tells a good story of harness-

ing a nine-foot sturgeon, transferred from the river to his domains. He has properly adjusted straps, so fitted as not to interfere with his fins, to which a ring and trace is attached with a light cork buoy, so as always to be within reach. When disposed for a sail, he gets into his canoe, and quietly affixes a tow line to the buoy; and as soon as the sturgeon feels a jirk, off he darts with railway speed, and whirls him round and round the pond till exhausted, when he rolls over on his back and halts. He is then disengaged from the canoe, and after recovering from his sweat, bounds into the air six or eight feet, and off he darts for the quiet depths of the pond. Some honest Dutchmen, in his neighborhood, thinking this too good fun to be monopolized, tried the experiment with an untamed sturgeon in the Hudson; when, after a short time, he plunged downwards, drawing under the boat, men and all, who came nearly being drowned. They cursed their neighbor and his craft, and have never been known to attempt the experiment since.

PREMIUM BEEF.

THE following statement of the weights of Mr. Hadfield's cow and Messrs. Albergers' oxen, which received first premiums at the State Fair, held at Buffalo, in September last, have been furnished as by B. P. Johnson, Secretary of the Society:—

<i>Albergers' Oxen.</i> —Live weight,	5,920 lbs.
Slaughtered weight,	4,850 "
"Empire State," $\frac{7}{8}$ shorthorn; "Queen City," $\frac{3}{4}$ shorthorn.	
Live weight of Empire State,	3,040 "
Slaughtered weight—Quarters,	2,006 "
Tallow,	326 "
Hide,	168 "
Total slaughtered weight,	2,500 "
Shrinkage, 18 per cent.	
Live weight of Queen City,	2,880 "
Slaughtered weight—Quarters,	1,940 "
Tallow,	252 "
Hide,	158 "
Total slaughtered weight,	2,350 "
Shrinkage, less than 19 per cent.	
<i>Hadfield's Cow, Pink.</i> —Live weight,	1,696 "
Slaughtered weight,	1,359 "
$\frac{7}{8}$ shorthorn, $\frac{3}{8}$ Yorkshire.	
Live weight,	1,696 "
Slaughtered weight—Quarters,	1,102 "
Tallow,	169 "
Hide,	88 "
Total slaughtered weight,	1,359 "
Shrinkage, 20 per cent.	

APPLICATION OF PLASTER AND ASHES TO MEADOWS.—If a meadow be manured only with plaster of Paris, the crops of grass will be at first greatly increased, but will afterwards diminish; for the silicate of potash which the soil contained, is soon exhausted by the rapid growth of the grass, and its further increase is checked. But if the meadow be strewn from time to time with wood ashes, which contain potash, the grass will thrive as luxuriantly as before.

SOUTHERN PLANTING—COW PEA—COTTON SEED, ETC.

IN your last number, Mr. Robinson, I perceive, notices the fatal effects, in Mississippi, of turning stock into pea fields. I have myself been a sufferer, in the loss of many valuable cattle, from the same cause. The usual hazard of feeding peas, however, may be much lessened by proper precautions. In the first place, I would recommend the *red winter pea* as least injurious; and planting on the same ridge with corn, to induce the vine to grow on the corn stalk, to prevent as much as possible the pods from coming in contact with the ground, which, in wet seasons, occasions them to rot very early, in which state they are *poison*. Before stock of any kind are turned into pea fields, they should be liberally fed with corn, lest they gorge themselves by too heavy a meal. They should have access to water at all times; and if the fields contain none, they should be driven to it thrice a-day. Salt freely twice a week, and rigidly exclude horses and cattle from pea fields in wet weather. Better that they are kept on short commons than feast on food so dangerous. If they swell, and are not speedily relieved by moderate exercise, they should be punctured with a sharp knife, between the hip and back rib, sufficiently deep to reach the cavity, which, nine cases in ten, will afford instant relief.

Hogs should never have access to pea fields, excepting those intended to fatten for slaughter. To stock hogs, they are almost as injurious as cotton seed, on both of which they will thrive for a time; but half that are thus fed, will die as warm weather approaches. In no country that I have ever seen, do hogs thrive so well as in the valley of the Mississippi; and nowhere that I know, can they be raised cheaper. The woods abound in mast, and the whole surface of the earth is filled with worms; so that only a sufficiency of corn, with a little attention to keep them gentle, is all that is required. I feed mine in the evening when they are penned, and turn them out in wood pastures in the day. I would prefer open, enclosed pastures, but for the *burs*. These, when they commence vegetating in the spring, hogs eat voraciously, and their rough outer covering forms an indigestible mass in the stomach, which destroys most of the young ones.

My crop of corn, last season, in Mississippi, nearly equalled that of the preceding year, whilst the cotton crop fell short about one fourth. Notwithstanding the fertility of the soil there, I shall, for the ensuing crop, manure every hill of corn, and if the result at all equals my expectations, I will give you the product. I have just closed the operation of hauling out manure on my fields here. Of cotton-seed, cow-pen, and stable manure, and ashes, I have taken out 570 four-horse wagon loads, and 2,840 cart loads. The latter are railroad carts, with bodies five feet long, four wide, and one foot deep. The ashes were obtained by setting fire to rafts deposited in my river low grounds, formed by the drift wood brought down by freshets. The supply is unlimited; and an experiment made last year with ashes, induces me to expect great results this season. W. HAMPTON.

Millwood, S. C., March 10th, 1849.

REVIEW OF THE FEBRUARY NUMBER OF THE AGRICULTURIST.

Adulteration of Food, No. 8.—Is there nothing that can escape this universal, all-pervading adulteration? Yes, I never have heard of any of these cheating chaps adulterating the Buffalo. And that is about the only human food that man can partake of, in these days of refined rascality, in a state of purity.

The Cow—Her Diseases and Management, No. 9.—These articles I have repeatedly commended. They are worth, in each number, the whole cost of the paper per annum. Though I think I can give a better remedy for the cure of wounds by goring.

First, let the gored animal die. Now take off the skin and take it to the tanner and sell it. Take the money and buy as many balls for cattle horns, as you have horns in the herd, and put them on, and bid the said horns to go and sin no more.

N. B.—It is always best to have one cow gored to death first, before putting on the balls, because "a burnt child dreads the fire."

Hydraulic Presses.—I want a little one for "family use." Can it be had? One that would do to press the lard out of a few hogs, or the wool into the sack, and a thousand-and-one domestic purposes? Have these presses ever been used upon cotton plantations? Or would they answer? Or is it a fixed fact that nothing but that great, cumbersome, wooden screw is ever to be used in baling cotton?

How to Preserve Eggs.—It will do it, I know, but to do it would be "book farming." So let them rot. They don't smell bad—till the shell is broken.

Disposal of the Filth of Paris.—I wish somebody would undertake to dispose of the filth of New York. But if it were all to be carried out of the city to-day, the population would be much less to-morrow, on account of the natural affinity of one body for another. "The farmer, standing in his barnyard, knee deep, in offensive accumulations, may proudly say, here is the source of my wealth, &c." And so can we, in almost any street of the city, in every rainy spell, say the same. And who is there that shall attempt to wean us from our idols, or disrupture natural affinities? "The refuse of a city may be considered as of five different kinds," says this writer, in speaking of Paris; but I assure him that it is "all of a sort" here. "The city fathers" always excepted—and the mud-removing contractors thrown in. "The gutters of Paris are washed out every morning." That practice would be objectionable in New York, on account of the danger of some citizen "possessing the right of suffrage," taking cold from damp streets. At Paris, the street refuse is removed to places of deposit to be decomposed. Here we let it lie and decompose the natural way. What's the odds?

Advantages of Thorough Draining will never be understood and appreciated, in this country, while the disposition is so rife, and the ability so great of acquiring so much land. From Canada to Mexico, and from the Atlantic to the Pacific, the inquiry is never made, How well I can cultivate my land, or how productive I can make it? but "Is land cheap there?" "How many acres can I

get?" Even in districts where the land cannot be cultivated without draining, as for instance, the sugar plantations on the Mississippi, "thorough draining" is but little understood. "Blind draining," I believe, is never practised there, or, at least, it was not when I was acquainted there some years ago. It will be a very long time before thorough draining will be done in this country. Indeed, except in case of gardens, or some choice spot, it will not pay. And until that is the case, it will never be done.

Cisterns and Matresses.—How in the world a man of so warm a temperament as Dr. Phillips is, manages to keep cool, without ice, is more than I know. Fact is, he don't do it. As to cotton mattresses, I beg of you, Doctor, no matter what you are called for it, to keep up the fire until you kill every goose, or at least prove any cotton planter to be a goose, and a lame one at that, who would give six or eight pounds of cotton for one of feathers, to make a bed, instead of using his own staple, and with that make a more comfortable and healthy one that ever was made of feathers. As to "cotton comforts," a man is destitute of the comforts of life that is without such bedding; and in a very uncomfortable state of ignorance if he don't know how to make them, but still worse, knowing how, and not doing it.

Rough Notes by the Way, No. 6.—One of the things mentioned in this number of these pleasant notes, is a water ram. How singular it is that any man in these days of economy and labor, should continue to live on top of a hill, with a flowing spring at the bottom, some 80 rods off, from which he is lugging up by hand all his water for household purposes, and taking all his stock down to the spring to drink, when, for a sum not exceeding a dollar a rod he may have one of these excellent machines, sending the water into all his yards. It is always pleasant to visit such men as Captain Ingersol, who devote a portion of their means to so useful a purpose as resuscitating a "worn-out farm," and making a pleasant and agreeable residence.

Effects Produced under an Exhausted Receiver.—"Gunpowder will not explode." What a pity that "exhausted treasuries" have not the same effect upon gunpowder, for then "wars shall be no more," and men would learn the arts of peace, and how to multiply and replenish the earth instead of slaying one another.

Shell Marl.—Has it ever occurred to Mr. Hibbard, the reason why this marl will forward a crop of wheat so much more than any other manure? If not, then I may as well tell him that it is because the wheat must have lime to perfect itself, and probably the quantity in the land may not be sufficient, or if it is, this in the marl is in that particular state easiest assimilated to its wants by the wheat; and therefore is the very best manure that could be applied. Giving manure to plants is exactly similar to giving food to animals. If it is desired to fatten them, they must have food containing fatty matter. If it is desired to increase bones and muscles, they must have food containing phosphate of lime and casein. Just so should the farmer study to feed his plants, and, above all, to know why he should feed them.

Wire Fence.—"If Mr. Peters is correct," &c. Well he was not quite correct, for he made the fence too cheap; but even at the price that it would actually cost, it would be the cheapest fence, in many parts of the country, that could be built. It is a material so well calculated for fencing the great western prairies, that it is a wonder that it has not been adopted before this time, since people will persist in the foolish fashion of fencing, instead of insisting that every man should take care of his own stock; by which means every other man could sow and reap wherever he pleased, without being compelled first to build a fence strong enough for a fortification, to keep his neighbors' pirating cattle and hogs off of his premises.

The Table of Statistics of Productions of the U. S. in the February number of the *Agriculturist* should be carefully preserved for reference and comparison. And yet, with a soil almost free to all that choose to cultivate it, and thus not only procure gold, but all the comforts of wholesome food, and abundance of it, our population are up and off like frightened ducks, to hunt gold in California, where, if they live through more hardships in getting there, than often falls to the farmer's lot, it is greatly to be feared that some of them will die of starvation, while reflecting that there "is plenty in my father's house," without being able to "rise up and go there." It seems as though the world was subject to periodical fits of insanity. This California mania is not the first by any means. America was first peopled by just such another golden humbug.

Legal Weights and Measures.—No doubt these are all legally accurate. Now the thing most advantageous to us, who buy by weight and measure, would be for congress to devise some plan to have them used. The amount of fraud daily practised by false weights and measures, if told, would be beyond human belief. We seize and confiscate the poor, petty, short pound of butter, while the short-weight hoghead of sugar goes free. And the head of a tobacco hogshead, weighing alone more than the whole cask is tared at, is looked upon as a good joke. And it is a notorious fact that many yard sticks are only 35 inches long. Are children ever taught in school, I never was, that there is no standard, or beginning point, of weights and measures? [The metrical system of France is founded on the fourth part of the terrestrial meridian. This quadrant is divided into 10,000,000 equal parts, one of which is equal in length to a *metre*. The standard yard of Great Britain and the United States, when compared with a pendulum vibrating seconds of mean time in the latitude of London, in a vacuum, at the level of the sea, is in the proportion of 36 inches to 39.1393; that is, if all that part of the pendulum, which lies between the axis of suspension and the centre of oscillation, be divided into 391,393 equal parts, then will 10,000 such parts be an *inch*, 12 whereof make a *foot*, and 36 whereof make a *yard*. Take a cube of one such inch of distilled water, at 62°F.; let it be weighed by any weight, and divide such weight into 252,458 equal parts, then will 1,000 of these parts be a *grain troy*; and 7,000 of those grains will be a *standard pound avoirdupois*. Then, 10 of these pounds of distilled water, at 62°F., the barometer

being at 30 inches, will be one *imperial gallon* of Great Britain, which gallon will contain 277 $\frac{274}{1000}$ cubic inches; consequently the *imperial pint* will hold 1 $\frac{1}{4}$ lbs., and the *imperial bushel*, 80 lbs. of distilled water, at the above-named temperature. The *wine gallon* of the United States contains only 231 cubic inches, and the *Winchester bushel* 2,150 $\frac{42}{100}$ inches.—Eds.] "Three barleycorns make an inch;" but how long is a barleycorn? And how much is the weight of a "grain?" What odd customs prevail among dealers in buying and selling articles. For instance, what is always sold by the *bushel*, and never measured but weighed—60 lbs. making a legal bushel. Salt is usually sold by the bushel, barrel, or sack, yet is sometimes weighed to ascertain the measure. New-York salt is 56 lbs. to the bushel, while western salt, I believe, is only 50 lbs. Dried apples are generally sold by the bushel; yet, in many places, they are never measured, but weighed, 22 lbs. only to the bushel, which will make about three pecks. Cotton seed is sold by the bushel, but every 25 lbs. is counted for that measure. The usual custom, upon sugar plantations, is to weigh molasses, every 12 lbs. being counted a gallon, yet nobody ever thinks of selling it by the pound. And so I might go on through a long chapter of similar absurdities.

REVIEWER.

RACE HORSES vs. THE POOR OF GREAT BRITAIN.

It is said that upwards of thirteen hundred race horses ran in Great Britain last year, and about one hundred and fifty in Ireland. To supply this stock from breeding mares, young animals not arrived at maturity, and such as have broken down, or are not in condition for the course, at least ten times this number would be required of horses reared exclusively for the turf. How much then is it to be deprecated, that, amidst the want and suffering in the United Kingdom, where hundreds and thousands of human beings have actually died of starvation, and disease, consequent upon scant or inappropriate food, within the last two years, such large sums as are necessary to sustain this immense stock kept almost solely for *gambling purposes*, could not have been spent in feeding, clothing, and educating the famishing poor.

The food consumed by the very hounds and other worthless dogs of Great Britain, would amply supply numberless almshouses and families with nutritious and healthful soups, which would go far to alleviate an incredible amount of suffering in that country.

CURIOUS DEVICE IN GRAFTING.—The gardeners of Italy sell plants of jasmynes, roses, honeysuckles, &c., all growing together from a stock of orange, myrtle, or pomegranate, on which, they say, they are grafted. But this is a mere deception; the fact being, that the stock has its centre bored out, so as to be made into a hollow cylinder, through which the stems of jasmynes and other flexible plants are easily made to pass, their roots intermingling with those of the stock. After growing for a time, the increase in the diameter of the stems, thus enclosed, forces them together, and they assume all the appearance of being united to one common stem.

VIRGINIAN SUMACH-RED-CEDAR POSTS.

A WRITER, at p. 285, of your seventh volume, remarks that, Salem county, New Jersey, annually exports, on an average, 50 tons of sumach, at \$35 per ton. As a large quantity of wild sumach could be gathered in this county, where it grows in profusion, I have thought that I would like to make the experiment of gathering and shipping a quantity to New York; but I am at a loss to know how to prepare it for market. Will you, therefore, be kind enough to inform the public through your columns of the best method of cutting, drying, and packing the above-named article, and the price it would probably bring in the New-York market? (a)

There is another article, also, about which I would elicit information; that is, whether red cedar, suitable for posts a large quantity of which grows on the islands off the coast, would bear transportation to New-York and pay expenses. (b)

E. R.

Drummondtown, Va., February 20th, 1849.

(a) This question cannot be better answered and more to the point, than by the following extract from a little work, entitled the "Theory and Practice of Agriculture," recently published by Mr. Partridge, of the firm of William Partridge and Son, dealers in dye stuffs, dye woods, &c., No. 27 Cliff street, New York:—"The annual shoots, or peduncles, with their leaves, [of the common sumach of North America, such as is generally used by our country dyers, and, to a limited extent, by our morocco dressers,] are gathered, dried, and generally are used without grinding. I have never known nor heard of any regular manufacture of the article since I have been in the country; and I shall now offer some observations which I hope may draw the attention of our southern planters to the advantage of cultivating it for our home market.

"It is well known that the most astringent vegetables, or those containing the largest portion of gallic acid, are brought from warm climates; and the following facts will prove, that the quality of sumach also depends on the warmth of the climate in which it grows. The sumach grown in Europe is the *Rhus coriaria*. That which is grown in the north of Europe, and imported from Trieste, is inferior to our northern sumach, excepting a small portion grown in the Tyrol, and even this is not superior to the best American grown in New Jersey; whereas that grown in Sicily, Syria, Spain, Portugal, and Palestine, where it is cultivated with great care, is found by experience to be vastly superior to that from Trieste, and will sell for nearly three times as much. A similar difference is observable in the sumach grown in our own country. That from the southern side of New Jersey is superior to that obtained from the state of New York, and that from Virginia is superior to the New Jersey; and I have no doubt that the same plant raised in our southern states, dried with proper care and fine ground, would be quite equal to the best imported.

"Sumach should be cut or gathered in clear weather, and should be so spread on a floor as to dry rapidly; for if only a small part should fer-

ment, the whole mass will be seriously injured in its marketable value. It should be fine ground when dry, and packed in bags containing one hundred and sixty pounds, net weight, which makes fourteen bags to the ton. No rain nor dew should be permitted to fall on it after cutting; for even the damp from the hold of a ship will greatly injure its quality." A good article usually sells in New York at the tanners, for \$35 to \$40 per ton.

(b) Red-cedar posts, six or eight inches in diameter and ten feet in length, usually sell in New York, by the quantity, at 18 or 20 cents each. Round cedar timber, ten or more inches in diameter and from ten to twenty feet long, is worth from 37½ to 50 cents per foot.

MOSES ON MEADOWS.

MOSES on meadows, like vermin on cattle, are a *consequence* rather than a *cause* of evil. They indicate a deficiency of stamina, health, or condition in the field or animal, rather than induce it themselves. But where either exist, they show something radically deficient, which must first be remedied before any useful results can follow. A farmer might as well leave his money with sharpers, or his manure heap under a spout, as his meadows in moss, or his cattle covered with vermin. All are spendthrifts together; and if left to themselves, will, like Pharaoh's lean kine, soon consume his evidences of previous plenty and show no equivalents in return. But how are we to get rid of mosses in meadows? Let us first see how they get there. The surest way to get rich, is first to know how you became poor.

Mosses are generally the result of a feeble growth of the grasses on a moist surface. The moisture of the land is not of itself objectionable, but decidedly the reverse; but when the profitable occupants of the soil fail or become thin and meagre, the profitless are ever ready to come in and supply their places. This is the case with the mosses; and it is not till the cultivated plants have declined, that these have gathered strength. To remove the latter, the former should be put in the very best condition. Scarifying, harrowing, closely feeding, and treading them thoroughly by the sharp hoofs of sheep and cattle, are all useful in extirpating the mosses from meadows. Sowing strong quick lime over them, when recently mown, or after short cropping by animals, is attended with decided advantage. Ashes will sometimes produce a similar effect. Guano, when mixed with mold and sown broadcast, is exceedingly useful; and so, too, are compost manures of all kinds. These help to destroy the mosses by invigorating the grasses. Properly draining, and especially *thorough under draining* the lands, is one of the most efficient modes of removing mosses and worthless aquatic plants. By carrying off all surplus, and particularly stagnant waters, the atmosphere and heat penetrate the soil and induce a vigorous, healthy growth of the cultivated plants, and thereby withdraw so much of the space and food which otherwise would be monopolized by the intruders.

When these and some other, of the most obvious means of renovating meadows fail, there is no alternative, but to break up the sod and subject the field to another course of cultivation. It is not

absolutely necessary that this undergo a series of rotations, although for many reasons this is better; yet a rotation may be secured exclusively with the forage plants, the clovers, and numerous varieties of the grasses. The meadow may, if it be preferred, be thoroughly manured with unfermented dung, then turned over flat, and after applying a top-dressing of compost, may be harrowed lengthwise of the furrows, and sown with grass seed liberally; and if all has been properly managed, the mosses will not, for years again, infest your meadows.

HINTS ON THE MANAGEMENT OF HORSES.— No. 1.

THE horse is the noblest of our domesticated quadrupeds. He is also one of the most useful in augmenting the power and diminishing the labor of mankind. He touches the extremes of beauty and deformity, and is associated with every degree of pride and degradation, of utility and injury to the human race. He may be refined by breeding, or debased by inhumanity and neglect. He is applied to the economical purposes of the farmer or citizen, or made the shuttlecock of gamblers and the *fancy*, by being thrown between the winning posts of the race course within the shortest possible time; or he becomes the terrible engine of destruction as he sweeps over the plain in a terrific charge of cavalry.

With us, however, in this portion of America, the horse is generally either the useful drudge and co-laborer of our citizens, or he is made to contribute to the ease, the pleasure, and the luxury of those who can afford it. Reasonable common-sense purposes among an intelligent common-sense people have produced such results as were to have been anticipated. The northeastern states can safely challenge the world to produce an equal proportion of horses every way adapted to the objects sought, as may now be found among them. This great excellence of our horses, has been mainly achieved within the last fifty years, by judiciously crossing the best made and stoutest bloods upon a substantial, but originally not over meritorious stock of brood mares. We have, besides, imported some of the best of other well-established breeds. Such are the Norman, the English cart horse, and Cleveland bay. We have occasionally brought choice animals from different quarters of the world; and where they have been found possessing superior merit, they have been made to contribute their quota in raising the character of American horses. We have within the last few days seen a Barb stallion, recently sent to this country, by our late consul at Morocco, standing nearly 16 hands high, with compact form, well-knit sinews, flat, clean, wiry, but strong legs, a shoulder approximating so closely to the hip as to be almost coupled by a double hand's breadth, yet with a steep Norman rump; and though probably incapable of ever getting a race of winners on the course, yet possessing qualities of intrinsic value for the horse of all work. But it is not our purpose to dwell upon the merits of our horses, but to suggest some of the most obvious hints for their management.

One great cause of injury to horses is, overworking at too early an age, before the frame is expanded and muscles and cords have become

fully developed and perfected. A horse does not reach a full maturity till eight, nor a man till eighteen to twenty-four; and while the boy is generally exonerated from hard, constant labor till he reaches his majority, how often do we see the colt of three or four, delving daily at a load that would tax the powers of the thoroughly-developed horse. Whoever thus overtaxes the youth of the animal, may be sure that he is paying dearly for it in his maturer age. He may waste one end of life, but he cannot both; and for every year thus inhumanly filched from one extremity of horse existence, he is exhausting two if not three, and often times four of what should be his prime. But this folly is getting out of vogue, and is practised only by such as combine the double traits of idiocy and inhumanity.

Another cause of frequent injury to horses is from improper breaking or training, by which the animal is left ignorant of the best and easiest method of doing his work. A horse should be well taught his paces; to walk fast, which is his easiest and least expensive gait; to trot square and light, yet firmly; to gallop easily, if destined for the saddle, and to back well, if used for the wheel. Most of the character and ability for a desirable gait is inbred, and is controlled by the form; yet a great deal depends upon the skill and habit of the animal. We see this in every department of human labor, sometimes carried to an almost incredible extent, as shown by the porters in the Mediterranean and East Indies, who will habitually carry burdens of 300 to 400 lbs., and sometimes it is alleged, as much as 600 to 700. The well-broken New-England oxen, will, with apparent ease, back a loaded cart up a steep hill, which many indifferently trained would hardly draw in the same position.

Long-continued labor is injurious to the horse, though it may be indulged in, occasionally, with impunity. A horse should not be kept dragging from morning till night, with an incessant jog, however slow that may be. He should be put to his work, early or late as you please, and when there, let him move briskly, with an interval of rest now and then, to relieve the muscles and take breath, till his work is accomplished preparatory to lunch; or if his day's work is for four or five hours only, he may do it all with more comfort and advantage to himself without, than with food. A tolerably quick step and activity while out, is better for the animal than delving all day at a snail's pace.

When put up for the night, the horse should be thoroughly rubbed down, the dirt brushed from his legs, and his hoofs cleaned out. Many are in the habit of washing the legs with cold water while the animal is warm, and afterwards allowing him to stand exposed to the cold air. Nothing could be more injurious. If the weather or stable be warm, and the water not too cold, this may be done with impunity, or it may be done at any time, if the limbs exposed to the water are constantly rubbed till dry. Let grooms use common sense in this, and a small amount of it will convince them of what is proper. Whatever would injure a man, will injure a horse under similar circumstances, though in a less degree. It is certainly very grate

ful to the tired beast to have his limbs gently rubbed after a hard day's work; but if this cannot be done properly with water, then remove the dirt with the brush, the currycomb, or by the hand. The hoofs should also be carefully cleaned; and if he has been driven hard over a pavement or M'Adam road, they should be well stuffed for the night with fresh cowdung and clay. This will give a requisite degree of pliability and elasticity to the hoof, and remove any tendency to soreness, feverishness, or foot cracks.

Frequent injury is done to horses by allowing them to stand, after exercising, in a cold air, or exposed to a draught. Consider how the man would fare in his shirt sleeves, in the open air of January, after having induced a profuse perspiration by exercise. Just so will it be with the horse. A cold, cough, catarrh, and what not, is very likely to follow this wanton exposure. Always have an ample, thick blanket to throw over the horse when thus exposed; nor should he, especially, ever be lashed into a sweat in cold weather, unless brought directly into a stable to cool off. It is better to rub him thoroughly till dry; but where this cannot be done, and the weather is cool, blanket or house him till all moisture is removed. Never wash the animal, nor drive him through the water, unless under such circumstances of weather, or subsequent care, as would secure yourself against injury.

SPECIAL MANURES FOR RUTA-BAGA TURNIPS.

THE result of the application of artificial manures in increasing the average produce of ground, cannot but be interesting to the agricultural community, even though these experiments should not have been conducted on American soil; and as every successful result leads to the extended use of special manures, and in most cases to more economical farming, I submit the following instance of what has been accomplished in raising turnips by their means.

Having been applied to in the spring of 1844 by the steward of Lord Charlemont, to analyze a sample of soil from the estate lying two miles from Dublin, and to point out how the soil might be improved so as to grow Swedish, (ruta-baga,) turnips for a prize crop, I found, after examination, that the soil was in good condition, having been manured the summer previous, but that it was to a small extent destitute of potash salts and phosphate of lime, to the degree that a heavy crop would require to find readily in the soil. On this account the following manure was recommended:—

- 56 lbs. pearl ashes,
- 28 lbs. nitrate of soda,
- 14 lbs. coarse Epsom salts,
- 56 lbs. bone dust.

To be mixed in with ditch scourings, road sweepings, some burnt earth, and other refuse off the farm, so as to make the compost sufficiently bulky; the whole to be laid on a statute acre.

The object in using nitrate of soda was twofold; first, it supplied the small quantity of soda found in turnip ash (10 lbs. in every 20 tons); and then, the form in which it is added, containing, as it does, nitrogen, (nitric acid,) rendered it peculiarly serviceable in pushing on the early growth

of the turnip. The bone dust and pearl ash were supplied because the crop required them; and the Epsom salts, because it was desired to put in wheat immediately after in the soil.

The result of this manure more than equaled expectation; their size was superior to any exhibited, and they received the first prize from the Royal Agricultural Society of Ireland, as well on that account as for the total yield amounting to 56 tons the English acre.

The above-named manure cost about \$6 per acre; and whether we consider it in the way of economy, or of an addition having a wonderful effect in stimulating vegetation, it recommends itself strongly to notice. The wheat crop following was one third greater yield than usual, or more than a portion of the ground unmanured did yield. As this compost was applied to a soil in rather a good state, with the object of forcing a great growth, there is no reason why the same special manure might not be applied to all soils intended for Swedes, and where condition is not exhausted by neglect of manuring. THOMAS ANTISELL, |

Laboratory of the Amer. Agricultural
Association, March 7th, 1849.

NORTH-AMERICAN POMOLOGICAL CONVENTION.

AT the meeting of the Pomological Convention, held at Buffalo, September, 1848, the following resolutions were adopted:—

"Resolved, That hereafter an annual assemblage, or convention, shall be held under the name of the 'North-American Pomological Convention.'

"Resolved, That this convention shall be held in the coming year of 1849, in the town or city in which the New-York State Agricultural Fair may be held—to convene its session the first day succeeding the closing of the Fair, and that the Recording Secretary of the New-York State Agricultural Society shall be entrusted with the charge, and respectfully solicited to give due notice of the time of meeting, by means of agricultural journals, and cards of invitation to gentlemen pomologists and horticultural societies throughout the Union and the Canadas, that they may send delegates or attend and bring or send specimens of fruits for exhibition."

The annual show and fair of the New-York State Agricultural Society having been fixed for the 11th, 12th, and 13th of September next, at the city of Syracuse, I do, in compliance with the request contained in the above resolution, hereby give notice of the meeting of the North-American Pomological Convention, at the city of Syracuse, on Friday, the 14th of September next, the day succeeding the show of the New-York State Agricultural Society; and on behalf of the said convention, extend a cordial invitation to yourself to attend, and the society with which you are connected to send delegates to the convention, and to forward specimens of fruits for exhibition.

Any fruits that may be sent can be directed to the care of P. N. Rust, Esq., Syracuse.

B. P. JOHNSON.

Sec. N. Y. State Ag. Soc.

Albany, April 6th, 1849.

THE Committee chosen by the above-named con-

vention, at its meeting in Buffalo last September, to devise such plans as they might deem best calculated to carry out successfully the objects designed by the members thereof, have concluded, as part of their plan, to appoint other committees for each state, territory, and the Canadas, whose duty it shall be to collect information as to the value of the various varieties of fruits now under cultivation, the value of new seedling varieties, and such other matter appertaining to the subject, as may be of importance, in their opinion, to the fruit-growing interests of the country, or to the community at large, and report the results of their inquiries and observations to the convention on its assemblage in Syracuse on the 14th day of September next.

The following gentlemen compose the committee for the state of New York, viz.:—Herman Wendell, M. D., of Albany County, Chairman; David Thomas, Aurora, Cayuga Co.; Alexander H. Stevens, M. D., Flushing, Queen's Co.; J. W. Knevels, Fishkill, Dutchess Co.; John R. Rhineland, M. D., Huntington, Suffolk Co.; N. Goodsell, Greece, Monroe Co.; D. Jay Browne, City and County of New York; J. W. Bayley, Plattsburgh, Clinton Co.; W. R. Coppock, Buffalo, Erie Co.

Growers of either old or new varieties of fruit are requested to communicate information of importance in relation thereto, which they may be in possession of, to any of the above-named gentlemen; and originators of new varieties of merit are requested to send specimens to the member of the committee who may reside nearest their vicinity.

As the object for which the above committee has been appointed is one of great importance to the community at large, editors of newspapers throughout the state, and also editors of horticultural or agricultural journals are requested to give the above an insertion in their editorial columns.

HERMAN WENDELL, M. D.,
Chairman of Committee.

Albany, March, 1st, 1849.

A CHEAP COMPOST—APPLICATION OF LIME, GREEN CROPS, ETC.

You ask me how I manure my grounds. First, I have a large cart that will carry 36 bushels of night soil. I now give certain persons 37½ cents a load for it, and furnish them with a pair of oxen and driver. My night soil, then, costs me one and a half cents per bushel. To this, I add half a bushel of plaster of Paris, at a cost of half a cent per bushel; 36 bushels of locomotive cinders, at a quarter of a cent per bushel; and 36 bushels of marsh mud from my own farm, at a cost of half a cent per bushel. Here, then, we have 108½ bushels of the richest compost, without weeds, for 99 cents, say, in round numbers, one cent per bushel.

My lands generally consist of decomposed red sandstone, on which lime acts most favorably. I lime all my fields, and prefer small doses, say, 30 or 40 bushels per acre, to be repeated every three or four years. I am satisfied that plowing in a crop of green corn, buckwheat, or oats, and then liming with 30 to 40 bushels to the acre, will soon bring round all worn-out land. R. L. COLT.

Paterson, N. J., March, 1849.

PRESIDENTIAL MANSIONS.

As a matter of interest to our readers, we insert a view of the private houses of some of the former chief magistrates, and of the existing President of the United States, none of which present the imposing character of the aristocratic mansions of Europe, especially of those who have held so prominent and conspicuous stations as the owners and occupants of the buildings subjoined. Two reasons

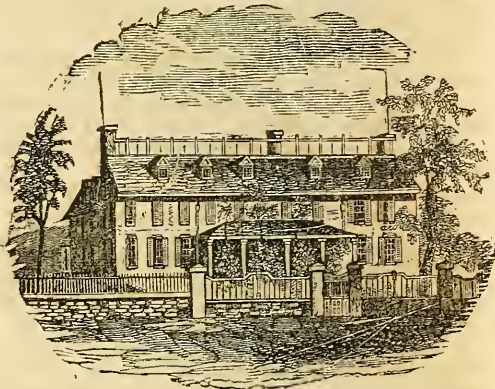


FIG. 37. RESIDENCE OF ADAMS, QUINCY, MASS.

exist for this difference. With the exception of Washington and the younger Adams, all of our chief magistrates have been comparatively poor, or possessed of only a moderate competence; and consequently, they had not the means for extravagant outlays on their domicils. But another and a more powerful cause withheld pretension and

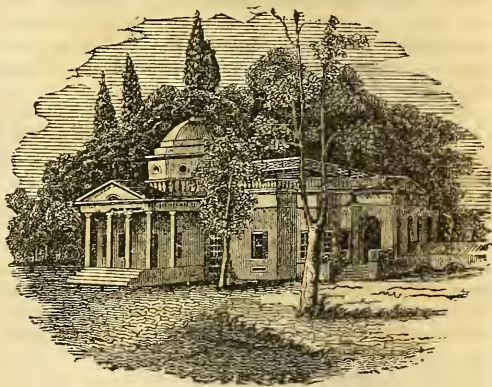


FIG. 38. MONTICELLO—RESIDENCE OF JEFFERSON.

show, which is to be found in the severer taste and greater simplicity predominant in our new Republic, and which would have prevented any desire for unnecessary display in the exalted minds of most of those who have been called upon to exercise the highest functions of our government. They sought distinction by bold deeds, and the exhibition of those high moral and intellectual qualities, which secure a fame more enviable and endur-

ing than are to be found in the perishable materials of wood and stone. This was the feeling that prompted the last breath of our late deceased president. When his "earthly tabernacle" was about dissolving its original elements, the remarkable words, "*This is the last of earth,*" was intended, in his comprehensive and ever-active and intelligent mind, to include the whole pageantry of matter in all its forms; and his moral and intellectual

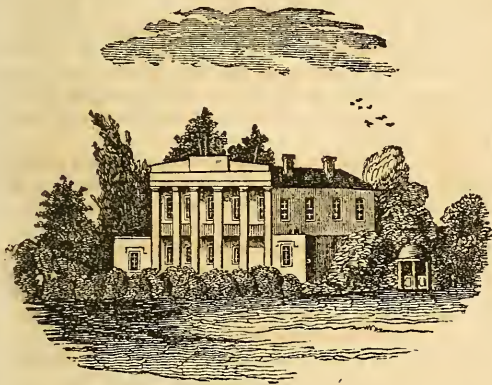


FIG. 39. HERMITAGE—RESIDENCE OF JACKSON.

fame was all the glory that was hereafter to remain of that patriot sage. Similar sentiments have been eminently characteristic of all our presidents deceased.

The mansion of the elder Adams, which was also afterwards occupied by his son, affords a fine specimen of the better class of New-England

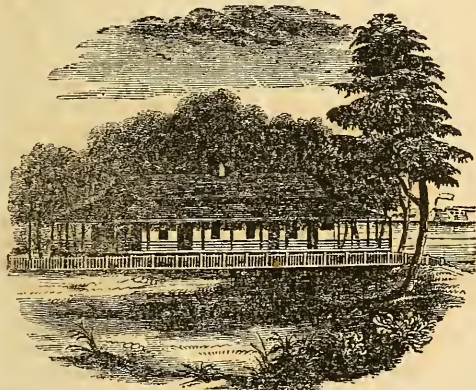


FIG. 40. RESIDENCE OF TAYLOR, BATON ROUGE.

architecture nearly a century ago. Those of Jefferson and Jackson are samples in building, which are to be found among the variety of style in the middle states. That of President Taylor shows the prevalent fashion of planters' houses throughout most of the southern states, especially in Louisiana. The latter combines the greatest simplicity and convenience, with the least pretension and show, being admirably suited to the comfort and wants of the occupants.

USE OF LIME IN VAULTS.

THERE can be nothing more wasteful to the fertilizing properties of night soil, than throwing quick lime into the privies. It expels the offensive odors, it is true, but these are precisely what are most efficient and desirable as manures. It is a practice only to be tolerated by those who never make any use of the contents of their vaults. The strongly alkaline properties of the lime combine with the carbonic and other acids, already in combination with the ammonia, thus driving off the invaluable fertilizing materials of the latter. Fine charcoal, charred peat, plaster of Paris, sulphuric acid, and common copperas, (sulphate of iron,) are the best additions for vaults, where the contents are to be used as fertilizers, as they absorb the gases, ammonia, &c., and retain all for manure. If these are wanting, add dry mold, or peat, tan bark, or sawdust, though these are much more bulky than the former, in the ratio of their absorbent powers. These may be added from time to time, and when sufficiently accumulated, withdrawn for use.

When the earth contiguous to privies is exposed to saturation, by which the contents may be diluted, and thus drained off, the vaults should have perfectly tight boxes, which can be easily drawn out from behind as fast as filled. The addition of wood ashes is to be placed in the same category with lime, though these are less objectionable. The alkalies of the ashes operate in the same way as the stronger and more active alkali of the lime, though in a less intense degree. But the cinders of the ashes are absorbents of the gases, and, to the extent that they exist, are directly beneficial in this combination.

GUANO vs. POUDRETTE.

WE notice with some surprise the constant increase in the consumption of guano, when large quantities of fecal matter, which constitute the fertilizing properties of poudrette, are suffered to go to waste. The cities of the United States annually expend large sums, in the aggregate, to get rid of the ordure of their yards, which, if properly managed, would bring them an income even larger than the amounts they now pay to have it removed.

Did it ever occur to the reader that these same excrements, which are thrown away, or are washed through sewers into the rivers, and thence floating along their currents to the ocean contribute to the growth of fishes and sea plants? That these same fishes and plants are devoured by seals and aquatic birds, which drop their offal on islands off the coast of Africa, Patagonia, or Peru, and there form the guano of commerce? And that this same guano, after many years, is brought back to us again, thousands of miles, at no small expense, to fertilize our land? Truly, this is a round-a-bout way of feeding our crops.

Would it not be more economical to save, and apply these manures directly to our fields, and thus benefit the present generation, instead of letting them pass off into the ocean to be returned to our successors, in an expensive form, perhaps fifty years hence? If we are parsimonious in saving money, why should we not be the same in husbanding the fertilizing substances of the stable, the sink, or of any similar matter within our reach?

COAL ASHES.

By many persons, coal ashes are deemed of no value. One gentleman of wealth and intelligence, and an extensive and very good farmer, too, once said to us, to use his own expression, that they were "poison" to land and vegetables. He had not examined their effects cautiously and candidly. There is so large a proportion of inorganic mineral matters, (earths never combined with vegetable,) that these ashes act feebly, and produce little effect.

The plants from which the coal is derived, were apparently produced in great luxuriance and profusion, and like the palms, ferns, lichens, and other plants which grow rapidly, or in swamps, (as the materials of our peat beds.) These contain little else than carbon, and such earthy matters as were accidentally mixed with it. The consequence is, that all the carbon is consumed, and the ash is principally these comparatively worthless earths. Yet there are more or less of the valuable salts found in wood ashes in those from coal, and they should be carefully saved and applied to the soil. For many reasons, they are better adapted to the clays than to other soils, and to this portion of the fields they should first be devoted; or, in the absence of clays, they may be applied to any other soils with advantage.

NEW MODE OF PREPARING BONES FOR MANURE.

THERE are several methods of preparing bones for application to land as manure. One is by calcination, or burning, by which all the organic matter is burned or driven off. This fits the mineral portion of the bones for immediate and efficient action in the soil, in consequence of reducing the bones to a minute state of division, and expelling the oil and gelatine, which, for a time, prevents decay. By this process, however, the animal matter is lost as manure. This amounts to 35 to 50 per cent. of the fresh bone according to the age of the animals supplying them, the youngest always giving the largest proportion of cartilage, oil, and gelatine.

Another method is by placing the bones in a compact heap or hogshead, first crushing them, and pouring over them, from one third to one half their weight of sulphuric acid, diluted with water. This generally effects a speedy decomposition of the bones and augments the efficiency and intensity of their action, as the sulphuric acid is itself a powerful manure for certain soils and crops.

A less expensive mode, sometimes adopted, is, to place the bones together in a heap, and moisten them with ashes and water, covering closely with muck, manure, or common garden mold. If this be done in a warm room, or in the open air in summer, or in the centre of a bed of horse or other fermenting manure, they will soon dissolve, and be in a fit state for application to the crops, after mixing with mold so as to absorb their moisture.

Grinding or crushing is the usual method of preparing bones for the soil. They are thus rendered comparatively fine, and are easily decomposed when incorporated in the ground. They are conveniently transported in barrels or sacks, and applied with little trouble either to the muck heap, or sown

broadcast or in drills. In this condition, they also preserve the animal matters, (the oil and gelatine,) which are slowly given out by decomposition and materially contribute to the growth of the crops.

A trial has recently been made which gives us another, and in many respects, a method superior to all others. It consists in subjecting them to steam of a high pressure for a few hours when the oil and gelatine are entirely separated, and the largest bones, skulls, hocks, vertebrae, &c., are easily crushed between the thumb and finger, though retaining their full proportions and form. The fat may be thus drawn off and used for soap grease, for cart or wagon wheels, or for certain kinds of machinery, while the remainder of the extracted matter is useful for manure.

A small boiler for generating steam, with a larger one to hold the bones, and a connecting tube, each capable of sustaining a pressure of 25 lbs. to the inch, are all that are required for this purpose; or should a steam boiler be already in use about the premises, this would supply the place of a steam generator. Where wood ashes are procurable, at fair rates, they are economically used with fresh bones, first by leaching and boiling the bones in the lye. If this process is thoroughly carried out, the oil is converted into soap, and the bones are prepared for ready decomposition in the soil. The spent lye yielded by the soap, and the leached ashes and lime remaining, may also be added to the soil, with the utmost advantage.

PROTECTION OF GRAPE VINES AGAINST ROSE BUGS.

THE cultivators of the grape, in many parts of Long Island, have often had their hopes blasted of enjoying this luscious fruit by the depredations of the rose bug, a small yellow beetle that appears in countless multitudes when the vine is in blossom and the berries are newly formed, for which they have a particular relish. To such an extent have these insects destroyed the products of the vine, that many have been induced to abandon all attempts to cultivate this fruit. Having been a close observer of the habits of this insect, I will offer a plan by which grapes have been grown secure from their attacks.

In the first place, plant the vines adjoining some building, or close, high fence, in a place free from exposure to cattle, taking care, of course, that the ground is sufficiently loose and rich by the addition of manure, wood-pile dirt, or almost any decayed animal or vegetable matter. The first year's growth of the vine should be cut down to about 18 inches above the ground, and the second year's growth should be reduced to two shoots trained horizontally, about two feet above. Some time in the course of the second winter, prepare some strips of board, three inches wide, and of a length to suit the building, or fence, against which the vines are to be trained. Fasten them about three feet apart, in an upright position, to cleats, nailed on in such a manner as will allow the vines to be about four inches from the side of said building or fence. Then take pieces of No. 10 wire, and fasten the ends to screws inserted in the outside upright strips, at the distance of 15 inches, one above the other. These outside strips should be secured

to the cleats, in order that the wires may be drawn straight and tight over the screws. The frame, or trellis, being thus fixed, a leading shoot from the horizontal vines, at the bottom of the frame, should be trained perpendicularly to the top of each strip.

After the second year, the vines must be subjected to three prunings per annum. At the first, or winter pruning, all the side, or horizontal shoots, should be cut from the wires to within two joints of the upright shoots. The second pruning should be done as soon, or before, as the bug makes its appearance in the spring, when all the shoots should be cut off except two, to run along the wires, each in opposite directions. By this means, all parts of the vine will be fully exposed to the heat of the sun, which seems to be offensive to the bugs. At the third pruning, it will only be requisite to shorten the side shoots on the wires, leaving four joints beyond the outside bunches of grapes, which may need thinning, if a less number and a better quality be preferred. I.

Westbury, Long Island, 10th mo. 25th, 1848.

VERY IMPORTANT TO FARMERS.

TURNIPS may be liberally fed to milch cows without imparting any unpleasant flavor to the milk or butter, by the following process:—Place the whole turnips into a steam box, with chopped hay, straw, or corn fodder, and steam them until they are soft. There should be some apertures in the top of the box, in order that the steam may escape whilst they are cooking. As soon as they are soft, the "escapes" should be closed, and the steaming process continued until the material with which they are steamed is perfectly saturated with water and the flavor of the turnips.

By this process, all the strong, unpleasant flavor of the turnip is removed, and a palatable one imparted. In connexion with this experiment, I made the following invaluable one in testing the comparative value of cold and warm food and drink for milch cows:—The experiment was conducted thus—A herd of nine cows in a stable were fed with food, prepared as above, and allowed to cool before it was fed. The cows were turned out into the yard to drink cold water, where they remained some two or three hours, morning and evening, in the cold air (the weather being very cold). The food was given in the stables, and the cows remained in all night. The milk was carefully measured for one week, and the amount of feed given, noted. The succeeding week the same amount of feed, prepared in the same manner, was given warm, the stable temperature was kept above freezing, and the chill taken off the water, the cows being constantly kept in the stables and the water carried to them. The result was, that there was an average gain, or increase, in the amount of milk secreted, of about one pint per diem for each cow, or nine pints, at 5 cents per quart, or 2½ cents per day. This will leave a net profit, in favor of the warm stable, food, and drink, of about 13 cents per day of the nine cows, or about \$4 per month, which is the usual wages paid a common laborer in winter, in this region.

Besides the above advantage, the cows were much more comfortable, and the labor of turning them out into the yard and putting them up again,

was more than that of carrying the water to them, as they required but little, being fed with moist steamed food, about one third of which was turnips.

I have also fed my swine with warm swill during the past winter, in which I have found a decided advantage.

JOHN WILKINSON.

*Mount-Airy Agricultural Institute,
Germantown, Pa., March, 1849.*

FATTENING POULTRY—EXPLANATION.

In the March number of the *Agriculturist*, I see your charming correspondent E. S. gives me several rather severe hits on the account of my experiment in fattening poultry, as detailed in the January number, to which you appended some judicious remarks, on the qualities of birds, beasts, &c. With your permission, I will offer a little explanation on several points.

In the first place, I did not say that the method made use of by me was the *best*. I said, "by some such way" poultry might be sold for more money, thereby increasing the farmer's gains.

Secondly, the cheapness, which E. S. says is so doubtful, may not be so when I tell her that the rice I used, was not clean, but was bought at 3½ cents per pound. Again, I am told by one experienced in such matters, that I kept my poultry confined too long; as they probably were in better condition on the ninth and tenth day than when killed.

Thirdly, they were kept perfectly clean; the box, in which they were confined, having no bottom, was moved a little out of place every day.

Fourthly, under the head of cruelty to animals, I must "plead guilty;" still, when we consider that it was night to them a great part of the time, when poultry of all kinds crowd into the smallest possible compass, this will be no great objection. Let that be as it may, I know they were perfectly quiet all the time.

I was induced to try rice, from the fact that the rice buntings, of the south, get so excessively fat from feeding on this grain when "in the milk;" and my object was to endeavor to make a dish that would approach nature as near possible.

J. B. D.

Boston, March 7th, 1849.

FRUIT AT THE SOUTH.—"I have just planted out an orchard of 500 choice apple and peach trees, and filled the yard round my house with plums and apricots, the first work I have ever done in this line."

Thus writes a friend under date of 26th February last, from the centre of South Carolina, and very glad are we to hear it; for we have always contended that a finer peach, apricot, and grape country does not exist than is to be found in the southern states. Certain kinds of apples, cherries, and plums do well there. The smaller fruits, such as strawberries, raspberries, blackberries, and currants also grow very finely. Gooseberries do not flourish so well, except in the mountainous regions. We would be obliged if any of our southern friends would inform us whether the whortleberry, (*vaccinium*), is found at the south except among the mountains.

ROLLING CORN IN TAR PREVIOUS TO PLANTING.

THIS is by no means a new idea to many farmers, but some have discarded the practice from the opinion of its having an injurious effect upon the corn, by causing it to come up unevenly; but such is the result of mismanagement in preparing it. If it is prepared according to the following directions it will effectually prevent it from being molested by birds, mice, squirrels, and domestic fowls, thus remedying the necessity of putting up twine and other scarecrows to keep off the former, and of confining the latter when you have a field planted near the house. As for its immediate effect upon the corn, so far as my observation has extended, I think it acts as a stimulant to the young plants, causing them to assume a healthy appearance:—

Soak the corn, say 12 or 14 hours, in water, or any solution which you are in the habit of using; then, before applying the tar, pour off the water, and cover the corn with hot water—the hotter the better. If it is boiling it will not hurt it, provided it is stirred as the water is poured on; let it stand two or three minutes; then drain off the water, and put about two table-spoonfuls of tar to a peck of corn, and, by stirring it with a stick, the tar, which is softened by the heat of the corn, will diffuse itself throughout the whole mass, and every grain will receive a coating; then, by rolling it in plaster of Paris, it will be in fine condition for dropping. If you should be preparing it in the vicinity of domestic fowls, it would be well to offer them a few grains. If they refuse it, they will not molest it in the field; but if it is not sufficiently disgusting, add in small quantities more tar.

ISAAC McREEL, JUN.

Yorktown, N. Y., 3rd mo., 1849.

LETTERS FROM CALIFORNIA.—No. 3:

SINCE the date of my last, I have come down to the coast, and taken up my winter quarters at this place, which will probably be the future emporium of this new territory. With the exception of San Diego and Bodega, the bay of San Francisco is the only one available, as a safe and commodious harbor, on this coast, though there are, in addition, several roadsteads, such as the bays of Monterey, Santa Barbara, and others. There are now congregated here some of our national marine, and numerous merchant vessels from all parts of the world; and it is safe to predict that this number must be largely augmented by numerous arrivals during the approaching spring and early summer. The thrilling intelligence hitherto carried to the United States must inevitably act with great intensity upon the excitable spirits of our enterprising countrymen; and thousands are now preparing to abandon for a time, at least, home, friends, and all the luxuries of civilized life, to seek, amid the sands of California, the precious dust which they vainly fancy will add to that solid comfort they already possess. I have often thought of the reply made by a friend to Pyrrhus, when about to leave his prosperous kingdom, in Greece, for an expected career of conquest abroad. After listening to his plans for the subjugating of foreign powers and territories, his friend inquired, "And what then?" "Why, I will return and enjoy myself among my friends." "And cannot you do that

now?" was the pertinent reply of his judicious friend. His defeat, the destruction of his army and allies by the Romans, his inglorious retreat, the beggary of his country, and his subsequent career, attest to the wisdom of his less ambitious counsellor. But words are thrown away upon ambition; it must have its run; success or defeat alone will satisfy it.

Let us investigate the prospects of those who aspire to the acquisition of the treasures of California. The existence of large quantities of gold in this wonderful country, was demonstrated by the early settlers, many of whom amassed large fortunes by its collection. It is alleged, and with probable truth, that a knowledge of its existence, in considerable abundance was possessed by many of the Jesuits, who embraced by far the largest portion of the intelligence of this country, and by some of the principal inhabitants, who procured what they desired for themselves, and then suffered the secret to die with them. We can readily imagine why one sluggish Spaniard, or fifty designing Jesuits, whose ambition runs in a different channel, could thus suffer immense wealth to remain concealed in the rich washings, or richer mines, when its acquisition was attended with considerable personal inconvenience. Its recent discovery by a single Yankee, has set the world agog. The present mania was started by one of Captain Sutter's men, a New-York mill wright, who was erecting a saw mill in the American fork, some 40 miles above Sutter's Fort. Secrecy was attempted for awhile, but was not of long avail, and soon every man in California, and as far beyond it as the news was carried, came rushing up the valley of the Sacramento in pursuit of it. The Indians, wild and tame, like a herd of hungry Buffaloes with whatever stray hunters and trappers were accessible, poured down the mountains, and from the far north followed the Oregonians, while the Mormons from the east, and the recently-electrified Mexicans from the south were soon all upon the track for gold. The consequence of this widespread search has resulted in finding the gold dust scattered with more or less profusion throughout a great extent of country.

The deposits are said to extend through a space of nearly 900 miles in length by 300 in breadth. But these statements must be taken with great reservation. That deposits may exist at these distances from each other is very possible; but that they are to be found in much abundance as washings, except in the narrow valleys and beds of rivers, and a few of the still narrower gorges among the hills and mountains, is highly improbable. It is undoubtedly to be expected that these auriferous sands will hereafter be traced by an enlightened science, till they reach the original deposits in the mountains; and veins and masses of gold will continually be found by excavation, instead of the light and scattered fragments which have heretofore so richly rewarded the explorers. The localities where the grain gold is now found, are called *placers*. The existence of the gold region was clearly indicated by Mr. Dana, when visiting this country with the United States Exploring Expedition. But his enlightened suggestion was not followed up by any attempt to verify the

existence of the metal. Similar deposits have been found in various places both in the old and new world. Many that at one time yielded immense quantities of the precious metal, have long since become exhausted, and are now wholly abandoned or wrought at a compensation less than is received for any equally laborious occupation. New Mexico, Brazil, and various other sections are examples in point. The washings from the mountains in the interior near Rio Janeiro furnished \$10,000,000 annually, a century and a half ago; but for years, the memory of their existence has been lost to the inhabitants.

The *placers*, or *washings*, of California are rich, probably as much so as any that ever existed; but as all similar deposits, hitherto discovered, have become nearly exhausted, we are forced to the conclusion that the same result will eventually follow in this country. Of the mines that may now be locked up in the bowels of the earth, there may remain inexhaustible stores, which will continue to give out their reluctant hordes for ages to come. But, in the meantime, the placers are better suited to reward the efforts of frontier life, than any mines could possibly be. The adventurous, hardy pioneers that now flock to the country, can go out single-handed, with their bowl and pitcher, or what is better, in well-arranged companies, and each gather enough to satisfy a reasonable ambition; while the deeper and more inaccessible deposits, now hidden in their original veins, will be yielded up only at the call of patient, scientific research, aided by the resources of accumulated capital and an elaborately-perfected, mechanical skill. [We have here to omit a large and interesting portion of our correspondent's letter for want of room and appropriateness to our columns. We add, with great pleasure, his conclusion.—Eds.]

Having thus given you an outline of the current intelligence respecting the gold of California, which you doubtless will have amplified an hundred fold from other sources, I shall confine myself in future, principally to topics connected with the geography and scenery of the country, and its climate, soil, productions, and agricultural capabilities. * * *

San Francisco, Feb. 24th, 1849.

SUPPOSED INJURY FROM PLOWING UNDER GREEN CORN STALKS.

IN a communication from Andrew Nichols, of Danvers, Massachusetts, published in the Agricultural Transactions of that state for the year 1847, he says:—I once had as much corn fodder, that is, as many corn stalks as would grow without manure, at least five or six tons to the acre, carefully covered by the soil in the month of September; and the result was no benefit to the land, the loss of the crop plowed in, and half the cut crop of corn planted thereon the succeeding year!

Did the buried crop then really injure the soil? Perhaps not. I account for the last-named loss by the fear I had of losing much of the fertilizing quality of the rich mass which I supposed was rotting below, should I turn it up by the plow, and expose it to the sun and air by so doing, and consequently planting the corn on manure in holes, without plowing the land at all, presuming—mis-

taken man that I was—that the roots of the corn would find no difficulty in permeating a soil so rich and *spongy*, as I supposed that must be. But in reality, the soil was neither rich nor spongy. The stalks, instead of rotting, had fermented and had been converted chiefly into alcohol and vinegar—the former flying off by evaporation, and the latter uniting with the alkaline or ferruginous earths, forming salts less fertilizing, perhaps, than their bases, as they existed in the soil previous to their union with the acid. Whatever theory on this subject we may adopt, I presume it will be generally admitted that alcohol and vinegar are poor, very poor food for animals or vegetables. And consequently, such vegetables as produce these most abundantly—those containing much sugar—such as corn stalks, especially when green, are not the best articles for the purpose under consideration. Buckwheat and clover are probably better.

THE LACTOMETER, OR CREAM GAUGE.

THIS useful instrument consists of one or more plain glass tubes rather more than 10 inches long, and of uniform diameter. The upper part of each tube is divided into inches and tenth parts, beginning at the height of 10 inches, and counting from 0, downwards, for the space of three inches. Then, each division will, of course, represent one per cent. of the whole.

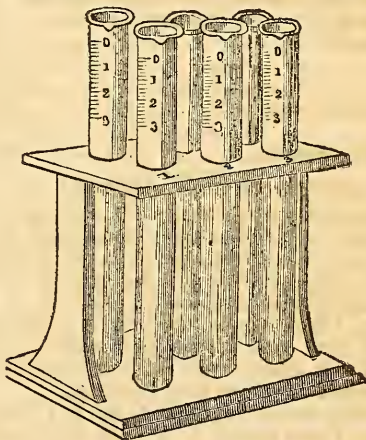


FIG. 41. LACTOMETER, OR CREAM GAUGE.

When it is required to test the quality of an evening or morning's milk, all that is necessary to be done, is to fill the tube until it reaches 0, and allow it to stand 10 or 12 hours, by which time the cream will have separated itself from the milk, and be distinctly seen floating on the surface to a depth, perhaps, of 2 to 3 inches, according to its richness. In the same manner, by having six tubes, as represented in the above cut, the comparative value of the milk of six different cows may easily be ascertained, and their usefulness for dairy purposes more correctly determined than by any other means.

Care must be observed to fill the tubes as soon as the milk is taken from the cow; for, should any delay take place, a portion of the cream will have

risen towards the surface. The milk to be tested should be taken from the middle of the pail, which may be done by dipping a small pot below the froth.

To persons interested in the affairs of a dairy, the utility of such an instrument as the above, is too obvious for further comment. Price, \$5 for six tubes, including frame, or a less number in proportion.

PROFITS OF FARMING.

THE following are the proceeds and kind of crops raised, the past year, on 70 acres of land, belonging to Mount-Airy Agricultural Institute, Germantown, Pa., by John Wilkinson, Esq. :—

4½ acres maize,	50 bush. per acre	\$146.94
6½ " rye,	27 " "	163.80
12 " wheat,	12 " "	297.36
9 " oats,	53 " "	153.60
5 " potatoes,	250 " "	937.50
1 " turnips,	350 " "	87.50
1 ¹⁰ / ₁₆ " carrots,	720 " "	345.60
1 ¹⁰ / ₁₆ " sugar parsnips,	80 " "	40.00
½ " early potatoes,	100 " "	75.00
12 barrels apples,		18.00
40 bushels pears,		40.00
Pork sold,		338.50
" preserved for the use of family,		98.50
Milk and butter sold,		45.00
Surplus hay, straw, and stalks, besides		
keeping 2 oxen, 3 horses, 13 cows,		150.00
Calves sold,		50.00
		<hr/>
		\$2,987.30
Deduct expenses		2,245.60
		<hr/>
Net proceeds,		\$741.70

ANALYSIS OF SOILS, MANURES, ETC.

THE accompanying analysis of soils made in the laboratory of the American Agricultural Association, since it has been opened to the public, may not be devoid of interest in the eyes of an intelligent agricultural community. Out of a larger number, I have selected those derived from sources distant from each other, which present, in some degree, the characteristic soils of those counties from which they have been forwarded.

The first sample, belonging to Mr. R. L. Pell, from Pelham, Ulster county, N. Y., was kept above two years in paper, previous to analysis, which accounts for the small per centage of water. The ingredients of 100 grains was as follows :—

Water,	1.00
Vegetable matter,	3.40
Silica and silicate of iron,	88.85
Alumina and oxide of iron,	4.40
Lime,	0.30
Magnesia,	0.20
Sulphuric acid,	0.68
Lime with sulphuric acid,	0.28
Potassa,	0.38
Common salt,	0.65
	<hr/>
	100.14

The last four-named substances are those which dissolve readily in water, and, existing in large quantity endow the soil with great fertility.

The second sample, forwarded by Mr. Archibald Russell, from the same county, was raised off the field immediately before analysis. It contains much less soluble, saline matter than the foregoing, and also less lime, being of a more sandy character :—

Water,	2.56
Vegetable matter,	5.53
Silica and silicate of iron,	88.36
Alumina and protoxide of iron,	1.61
Lime as silicate,	0.78
Magnesia, do.,	0.14
Soluble saline matter, sulphate of	
lime,	0.30
Common salt,	0.47
Potassa,	0.25
	<hr/>
	100.00

The third sample was from Staten Island, from a field of Mr. D. A. Comstock :—

Silicates of iron, lime, and magnesia,	83.40
Alumina and peroxide of iron,	5.90
Lime,	2.94
Magnesia,	0.78
Potassa with sulphuric acid,	0.32
Lime with vegetable acid,	0.18
Common salt,	0.40
Traces of phosphoric acid,	0.00
Vegetable matter,	4.44
Water,	1.64
	<hr/>
	100.00

Phosphoric acid was found in all the foregoing soils, but in smaller quantities in that from Staten Island than in the others. Bone dust was recommended to that soil.

The fourth sample is of a different character from Westchester county, a richer soil than any of the foregoing. It contains a very remarkable quantity of magnesia, perhaps derived from the mica, small spangles of which occur in the fine sand left after repeated washings :—

Water,	3.86
Vegetable matter,	6.25
Alumina and peroxide of iron,	79.25
Carbonate of lime,	6.68
Carbonate of magnesia,	1.67
Common salt,	0.32
Magnesia as carbonate and phosphate,	0.76
Sulphuric acid with lime and potash,	0.21
	<hr/>
	100.00

This soil had been forwarded for analysis, as being supposed to contain some ingredient inimical to the growth of pear trees, numbers of which had large excrescences growing on the bark. The chemical examination showed the soil to contain no noxious element, and the excrescences were produced by the irritation of the wood and bark round the spot where it had been punctured by an insect and the eggs deposited.

The fifth sample is that of a substance forwarded and marked "sulphate of lime," and sold as such by a respectable druggist. Being the residuum of a soda-water manufactory, it had the following constitution. It may be necessary to state that it presented the appearance of a thick cream or paste,

and was found in that condition to contain 97 per cent. of water when dried until it ceased to give off moisture; the dry portion was examined and yielded in 100 parts,

Sulphate of lime, . . .	40.83
Carbonate of lime, . . .	32.66
Carbonate of magnesia, . . .	0.05
Water, . . .	26.46

100.00

If we deduct this last portion of water, (which is always present in dry sulphate of lime,) from the total quantity, there still remains the large amount of 71 per cent., or nearly three fourths of the whole weight of the substance. Of the remaining fourth, one third part consists of carbonate of lime, an impurity here arising out of the wasteful neglect of the manufacturer, but for which the purchaser would pay a sum far above its real value. In other words, the substance sold as sulphate of lime has been found to contain little more than one ninth of that substance.

This affords a good instance of the value of chemical analysis to the farmer, in pointing out, immediately, where imposition is practised, and what the exact money value of any manure may be.

THOMAS ANTISELL, M. D.,

Chemist to the American Ag. Association.
New York, April 13th, 1849.

THE APPLE-TREE BORER.

THE grub, or borer, which infests the roots of apple trees, has been known to me more than forty years. When fully grown, the worm is about the size of a rye straw, one inch long, with a small, red head, and appears similar to those cut out of old wood. When taken from the tree, these insects do not appear to possess the power of crawling, and hardly of motion. They are peculiarly injurious to nurseries of young apple trees, frequently destroying nearly all the bark around the roots, and boring them nearly off, just at the surface of the ground, so that they may easily be broken down by the hand. They also do material damage in orchards, particularly young ones.

This worm is known to be generated from a nit, or egg, deposited in the bark of the tree, near the surface of the ground, by a bug, or beetle. [This is the *Saperda bivittata*, of Say, described at p. 75, in our seventh volume.] The first summer, the young worm grows about a quarter of an inch long, and moves downward in the bark, perhaps an inch. The second year, it increases considerably in size, and generally progresses in its work of destruction two or three inches further, more or less downward, consuming the inner bark of the tree, reducing it to a sort of powder. The third year, it still continues its work of destruction, when it attains its full size. The fourth year, it bores into the hard wood to the depth of from one fourth to three fourths of an inch, and then ascends perpendicularly in the trunk from four to eight inches; thence curving outwards till it comes to the bark. In this situation, it lies until the spring following, within which time it changes into a species of bug, or beetle, nearly three fourths of an inch in length, with horns, or feelers,

and wings striped lengthwise with white and black. In the latter part of May, or early in June, this beetle gnaws through the bark of the tree, leaving an aperture like a gimlet hole, and proceeds to propagate its kind in the manner above described.

The grubs may very easily be destroyed, by scraping the back of the trunk and roots a little below the surface of the ground, all round the tree; and wherever they are, they produce more or less defect in the bark. Those which are only in the latter, may readily be killed, but those in the wood may be destroyed by piercing a small wire into the holes, or by cutting the grubs out with a small chisel or gouge. The wounds, thus caused in the tree, are far less injurious, however, than the devastations of these worms.

SHELTON BEACH,

Formerly of Monroe, Ct.

New York, Jan. 21st, 1849.

NEW MODE OF CULTIVATING THE VINE.

THE following is a translation of a paper lately read before the Academy of Sciences of Paris, by M. Persoz. His plan of manuring the vine at different periods of its growth, is very ingenious, and as far as we can judge, is worthy of a trial in this country:—

The new process which I propose for cultivating the vine, inasmuch as it enables us to make use of half of the land for growing nutritive plants, may at first sight appear to differ completely from the plans now adopted in vineyards. Such, however, is not the case, and, as those who have studied the various methods pursued in different countries will see, several of the recommendations here made have been already followed in practice. I acknowledge this the more readily, as it enables me to appeal, as a proof of their usefulness, to results obtained by long experience. In one respect, my plan differs from every other; for I propose that all the vine stocks in a certain space of ground should be brought together in a trench where, by one chemical action, the wood, and by another the fruit, may be induced to form. This I propose in consequence of having, by direct experiment, satisfied myself that, of the manures which are fit for the culture of the vine, some serve exclusively for the increase of cells; that is, of wood, and that others cause the development of the flower bud (fruit or grape); and the actions of these substances, instead of both going on at the same time, ought to be successive. By the application of these principles, the growth of the wood can be stopped at pleasure, whilst, by the ordinary methods, the same effect can only be produced by artificial and empirical means.

When it is wished that wood should be developed, the vines must be placed in a trench and covered with three or four inches of earth, with which have been mixed, for every square yard of the surface of the trench, 8 lbs. of pulverised bone, 4 lbs. of pieces of skin, leather, horns, tanners' refuse, &c., and 1½ lb. of gypsum.

When the wood is sufficiently formed, which will be in a year or two, according to circumstances, the roots must be supplied with salts of potash, in order that the fruit may be produced. For this purpose, it is necessary to spread over the trench,

at a distance of three or four inches from the buried wood, for every square yard of surface, $5\frac{1}{2}$ lbs. of a mixture formed of 8 lbs. of silicate of potash, and $2\frac{1}{2}$ lbs. of double phosphates of potash and lime. The trench is then to be filled up, and the roots have as much potash as they will want for a long time. To prevent, however, the exhaustion of the potash, it is as well to spread every year at the foot of the stools a certain quantity of the husks of grapes, which contains $2\frac{1}{2}$ per cent. of carbonate of potash, and will restore annually a large proportion of the potash that may have disappeared from the trench.

Hitherto the success of a vintage depended, *ceteris paribus*, in a great measure on the influence of the atmosphere. Thus, suppose a vine stock required 10 parts of potash to be enabled to bear fruit, if the action of heat and rain on the stones and earth in a state of decomposition could only furnish 5, the vintage would be bad. This danger will be avoided by the above system of culture, in which the vine must always have suitable food; but it is not to be forgotten that, although I promise the grape growers who shall follow the above plan an abundance of produce, I can by no means insure the quality of that produce; for quality must always depend on the temperature.

SUCCESSFUL GROWTH OF CRANBERRIES ON UPLAND.

AN experiment of Mr. Winthrop Low, of Essex, on the cultivation of the common marsh cranberry on upland, is one of great interest. It establishes the fact, so far as it can be done in one year, that cranberries may be raised in perfection upon a dry upland soil, without artificial watering. The soil selected by him was, most of it, a sandy loam. It was perfect Indian-corn land. The soil is porous, and would not retain water, even if the ground were level.

As evidence of the completely upland nature of the soil, it may be stated, that a row of white beans was planted between every two of cranberry vines; and although it has not been a good year for white beans, Mr. Low has harvested nine bushels from the one hundred and twenty rods—a fact showing, also, that the land is not lost to the cultivator even the first year, indeed that the bean crop has defrayed a large part of the expense.

The cranberry vines had put out runners in many cases, from three to four feet long, and have all the marks and numbers of health and vigor. Sand was applied to about one half of the hills, but without any apparent advantage whatever. The attention of the committee was called particularly to this fact, because the experiments in Barnstable county seem to have been all made with sand, and it is there thought and declared to be indispensable. There was no artificial watering. The cranberry sods were taken up, as appears, on the 15th of May, and set out on the 16th, 18th, and 19th.

It should be borne in mind, however, by way of caution, that there had been more wet weather during the following six months, than the average of the previous four years, or indeed any one of them. The whole quantity during the months of May, June, July, August, September, and October,

1847, was $25\frac{1}{2}$ inches; while during the same months in 1846, there was but $15\frac{1}{2}$ inches; though in 1845 the quantity was as great as this year, wanting $2\frac{1}{2}$ inches.

It should be recollected, too, that this is the first year, and what the effect of the winter will be without the *indispensable presence of water*, as the Yarmouth Register would say, remains to be seen. The fact, that the roots could be taken dripping from their native meadow bed, on the 15th day of May, put into a corn field soil, and then, with nothing but the rain of heaven upon them, in five short months to take root downward, and bear fruit upward, is most extraordinary. A specimen of the fruit appeared to be as good as the uncultivated fruit of the meadows. The quantity was one bushel and thirteen quarts. The land was carefully measured, and found to contain 120 rods. It ought to be added here, that the field exhibited a case of clean culture; weeds and grass having both yielded to the hoe.—*Condensed from Transactions of the Agricultural Societies of Mass.*

DRIVING HOGS EAST.

WHEREVER there is a penny to be made the Yankees are on hand to make it. Driving store hogs from Northern Ohio to the Brighton market, has become quite a business, and a profitable one, too. A shrewd Yankee, from the Berkshire hills, comes this way with money in pocket, travels round among the Buckeyes ready for a bargain, and soon picks up a drove of several hundred hogs at from 1 cent to $1\frac{1}{2}$ cents per pound. He buys a few sleek horses, and then, with a hired hand or two, starts his grunTERS for down east. He drives them at the rate of 12 to 15 miles per day, feeds them well, and in about 50 days reaches Albany, where the swine are shipped on the cars for Brighton, and, increased in weight by the journey, they there bring from 5 to 6 cents per pound, alive and squealing, and are scattered among the farmers in the region round about, to be fattened for customers and a market.

The horses are matched and sold at a handsome profit, and the penny being well turned, the Yankee is ready for another speculation. A drove of 600 hogs passed through the city yesterday for Brighton, bought principally in Hardin and Huron counties.—*Cleveland Herald.*

PRESERVATION OF BOOKS AGAINST MILDEW.—I lightly washed over the back and covers of some books with spirits of wine, using as a brush the feather of a goose quill. I frequently saw the books during the next five years, and I have occasionally seen them since, and there has not, so far as I am aware, been a single spot of mildew on them since the spirits of wine were applied.—*Builder.*

WELLERISM.—“Come, get up—you’ve been in bed long enough,” as the gardener said when he was pulling up radishes.

DRINKING water, in moderation, neither makes a man sick, nor in debt, nor his wife a widow.—*Spanish Proverb.*

Ladies' Department.

RECIPES FOR THE LADIES.

I HOPE my dear friends will not imagine for a moment that I neglect their interests while taking notes. Here is proof that I am still mindful to pick up all little items like the following for future use:—

Louisiana Muffin Bread.—Take two pints of flour and one and a half of sifted corn meal, two spoonfuls of butter, one spoonful of yeast, and two eggs, and mix and bake for breakfast. It is good.

Hopping Johnny (jambalaya).—Take a dressed chicken, or full-grown fowl, if not old, and cut all the flesh into small pieces, with a sharp knife. Put this into an iron pot, with a large spoonful of butter and one onion chopped fine; steep and stir it till it is brown; then add water enough to cover it, and put in some parsley, spices, and red pepper pods, chopped fine, and let it boil till you think it is barely done, taking care to stir it often, so as not to burn it; then stir in as much rice, when cooked, as will absorb all the water, which will be one pint of rice to two of water; stir and boil it a minute or so, and then let it stand and simmer until the rice is cooked, and you will have a most delicious dish of palatable, digestible food.

Something for the Children.—Make a dish of molasses candy, and, while it is hot, pour it out upon a deep plate, and stir in the meats of pecans, hickory nuts, hazle nuts, or peanuts, just as thick as you can stir them in, and then let it cool. Be careful and not eat too much of it, for it is very rich. It is a very nice dish for evening parties of the dear little girls and boys; and I have known some "big children" to like it pretty well.

SOLON ROBINSON.

Alabama, March 25th, 1849.

WHAT CAN BE DONE BY A FARMER'S WIFE.—Mrs. John Torton, of Lower Penn's Neck, sold, on board the steamer Express, on Friday last, sixty pair of fowls for sixty dollars. This lady has sold the past season \$163 worth of poultry. A friend assures us that those sold by Mrs. T. on Friday, were much in advance of any poultry on board the boat that day, though the whole amount of sales exceeded \$300. A gentleman of Delaware was so much pleased with the poultry, or the sale, or both, that he purchased of Mrs. T. some of her live stock at \$1 each.—*National Standard*.

THE WAY TO WIN A HUSBAND.—If your sweetheart happens to call about supper time, go down into the kitchen and take a mutton chop, broil it nicely over a red fire, and set before him, with pickles and a jug of good ale. Whisper softly in his hearing, the words, "I did it." You will find this a very likely way indeed to win him.—*Exchange*.

A GOOD WIFE.—When a daughter remarks—"Mother, I would not hire help, for I can assist you to do all the work of the kitchen," set it down that she will make somebody a good wife.—*Uncle Sam*.

Boys' Department.

EXPERIMENT FOR THE BOYS.

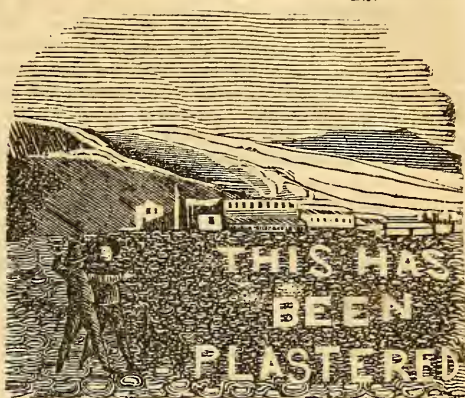


FIG. 42.

WHEN the soil and season are favorable, if plaster of Paris be sown, in the spring, upon grass already commenced growing, the product of the crop is often doubled. The grass then takes a lively green color and an extraordinary vigor, which causes it to contrast strongly with the portions not plastered. When Dr. Franklin wished to introduce the use of plaster into America, in order to convince his countrymen of its efficacy, he sowed in letters upon a clover field, in Washington, with powdered gypsum, the following phrase, as indicated on the adjoining cut:—"THIS HAS BEEN PLASTERED."

The effect of the plaster brought these words up in bold relief in greener and more vigorous stalks; and the consequence was, everybody was convinced of its highly-fertilizing powers, and it has been rendered popular in this country ever since.

GAME AND DORKING FOWLS.

I HAVE, for many years, been an admirer of poultry, and have in turn kept most of the varieties, from the little-booted Bantam, to the gigantic, long-legged Malay; but, *all properties* considered, I decidedly prefer the game fowl or the Dorking. True, they are very different in characteristics; as different as the thorough-bred is from the dray horse, and fill two very different positions. As an amateur, give me the game bird before all others. The richness of his plumage, its *closeness*, its brilliancy, its changeable colors and glossiness, is certainly unrivalled in the poultry courts. Then his symmetry, the elegance of his every movement, his bold and fearless bearing, his undaunted courage, and lofty carriage, all testify to his high breeding; and yet, to the exacting, pert, and coquetish beauties of his household he is the very model of gentle manners, courtesy, and attention; but it extends not a single point beyond. Lay but a finger rudely upon any of his chosen ones, and you will find it is a word and a blow with him, and the blow comes first!

But to return to the mere matter-of-fact value of this breed, I claim that they are a very hardy,

healthy fowl, small consumers, very industrious in seeking to provide for themselves, and, therefore, little dependent on hand feeding. They are good layers, and steady setters, not being easily alarmed, nor disturbed on their nests. As mothers, they are very superior to every other variety in their untiring industry, their light step, their quick and active movements, their increasing vigilance, and unflinching courage. They are never taken by surprise, and seldom lose a chicken. I have seen a game hen rise ten or twelve feet in the air to do battle with a hawk; and when thus met, the bird of prey soon becomes shy of the encounter, and seeks its food where there is less resistance. After the first year of my keeping game fowls, I seldom saw a hawk hover over their feeding ground! On the table, their meat will be found remarkable for its fine, short grain, high flavor, and abundant juice. It is, however, generally objected to them, that they are pugnacious, and consequently the chickens are often blinded, &c., &c.; but though I took particular pride in the purity and high breeding of my birds, I was never troubled in that way; and I remember to have seen round the barn and stables of Mr. * * *, a man of game-cock notoriety, no less than fifteen or twenty stags, (as they are technically called,) or yearling cocks, and not one of them with a ruffled feather!

Birds having a wide range, roosting in different places, and not in the daily habit of seeing each other, would undoubtedly be more disposed to fight than such as are kept more closely together. My own objection to them was, their impatience of confinement to a yard; and they were so light on the wing, it was difficult to prevent their flying out at will. Their hasty tempers will not permit much interference, and therefore they are not suited to a chicken coop; indeed, the less you interfere with the game hen and her brood the better; for she is fully competent to take care of herself and chickens without your aid. The marketman prefers a larger and more imposing-looking fowl on his stall; not so, however, with the consumer, after his attention has once been called to their superiority on the table.

For the Dorking, I also claim a degree of beauty, in its thick, close plumage, formerly of the most unsullied white, now speckled, or rather spangled with a darker color, sometimes of a rich brown, but certainly not comparable to the games and some others in its brilliancy. They can, however, boast size without coarseness, and are of a large, round, compact form, full in the breast, broad across the pinions, and wide in the saddle, with a good thigh and a short leg. For constitution, hardness, and endurance of cold, they are not to be beaten; at least, such is my experience of them in a climate where the winter range of the thermometer is frequently, and for days together, below zero. My yard is small, and my hen house is a simple wooden shed, with a half door to it and one small window of four squares of glass. I am the more particular on the points of constitution, from having heard complaints of their not being a hardy or healthy fowl, which I must attribute to want of management on the part of their owners. They are with me constant layers; their eggs are large and rich; they are steady and patient sitters; very gentle on the nest; and though large and heavy,

are not clumsy. The additional, or fifth toe, I consider a disadvantage, and should soon breed it off but that it is a distinguishing feature of this variety. I recommend, however, its being taken off, one joint from the leg, when the chicken is three or four days old, leaving only a rudiment as an evidence of descent; for, as a breeder, I despise a mongrel fowl as much as I do a mongrel animal.

As mothers, the Dorkings are kind, careful, and attentive, naturally quiet and trustful; consequently, much more manageable under coops and elsewhere than the game hen; but she is neither so watchful nor so alert, nor so active in the defence of her brood; neither will she make such a fuss, nor bestir herself at the chirp of a stray chicken with half the energy of the other high-tempered bird. Indeed, her rule over her family is not so strict and effective; but then, you can lend your own aid to put matters to rights without endangering a dozen others of the little family, or risking your face and eyes, which you could scarcely do with a game hen.

On the poulterer's board, as well as on the more hospitable one of the consumer, the Dorkings make an imposing appearance from their size and the whiteness of their flesh. The light color of the leg also tends to give them a delicate appearance. They are, in England, preferred to caponize, and are the epicure's favorite fowl. They are greater consumers than the games; but then they are a larger bird, and fat easier, and carry more of it.

As a lad, I commenced by keeping Dorkings, and now I have returned to them again. They are, with me, subject to no disease; neither gapes, pip, rouse, staggers, nor any other of the numerous maladies I hear of, affect my chickens! I raise from fifty to sixty every year for my own table, and seldom lose one, excepting from birds of prey, against which the Dorking is no match; though not wanting in courage, she is deficient in activity. I feed *nothing but whole or cracked corn, dry*, to my oldest fowl, or my *youngest chicks*, with meat occasionally, when they cannot find worms for themselves. This simple course of feeding, with care to avoid breeding from *too close affinities*, is, in my opinion, the sole cause of my success with the Dorkings. My nest boxes are so arranged that the hen and chickens are by themselves for some days; and consequently the latter are not exposed to the numerous casualties which beset them in removals, or in being allowed to go forth at the will of the hen.

R.
Butternuts, N. Y., March 15th, 1849.

BUSINESS FIRST, THEN PLEASURE.

A MAN who is very rich now, was very poor when he was a boy. When asked how he got his riches, he replied:—"My father taught me never to play till all my work for the day was finished, and never to spend money till I had earned it. If I had but half an hour's work to do in a day, I must do that the first thing, and in half an hour. After this was done, I was allowed to play; and I could then play with much more pleasure than if I had the thought of an unfinished task before my mind. I early formed the habit of doing everything in its time, and it soon became perfectly easy to do so. It is to this habit that I now owe my prosperity." Let every boy who reads this, go and do likewise.—*Wright's Casket.*

FOREIGN AGRICULTURAL NEWS.

By the steamer Herman we are in receipt of our foreign journals to 26th March.

MARKETS.—With the exception of Indian meal, American produce had a downward look, though very little change in prices had actually taken place since our last.

Best Cleansing Drink for a Cow after Calving.—Give her 1 lb. of Epsom salts and a tablespoonful of ground ginger, in a quart of good, warm ale.—*Dublin Paper.*

Facts in Cooking Meats.—From an average of the nicest experiments made on good meat, moderately fat, 4 lbs. of beef lose 1 lb. in boiling, 1 lb. 3 oz. in baking, and 1 lb. 5 oz. in roasting; while 4 lbs. of mutton lose 14 oz. in boiling, 1 lb. 4 oz. in baking, and 1 lb. 6 oz. in roasting.

Effects of the Game Laws in Great Britain.—It is asserted by the "Suffolk Chronicle," that the destruction of the game preserves, alone, would produce greater crops in England than all the artificial manures in the world.

Cucumbers have been selling in Covent Garden Market, London, at prices varying from 4s. to 9s. a couple.

Guano for Rose Bushes.—Genuine Peruvian guano, applied in wet weather, is an excellent manure for roses.—*Gardeners' Chronicle.*

Grafting Grape Vines.—This operation may be performed precisely as in the case of apples and pears, provided the following precautions are attended to:—The wood on which you wish to fit the graft may be one or more years old. Let the buds push into leaf, then graft, and allow the bud opposite the graft to grow till the buds of the scion begin to swell; then stop the other above the first joint, and check it entirely as soon as the scion 'pushes into leaf.—*ib.*

A Saturday's New Moon a Wet One.—Dr. Forster, of Bruges, has made a communication to the Royal Astronomical Society, in which he declares that by journals of the weather kept by his grandfather, father, and himself, ever since 1767, to the present time, whenever the new moon has fallen on a Saturday, the following twenty days have been wet and windy in nineteen cases out of twenty.

Rearers Disqualified for Breeding.—At a late meeting of the Royal Agricultural Society of England, Mr. Cator suggested that all stallions and mares known under the name of "rearers," should be disqualified for competing for prizes offered by the society for improving the breed of horses.

How to Kill Lice.—Tobacco water, or the ammoniacal liquor from the gas works, is recommended by the Agricultural Gazette for destroying lice.

Manures Favorable to the Potato Crop.—Mr. J. Cuthill, florist, Camberwell, used 30 cwt. of salt and 30 bushels of soot per acre on light sandy land, planted in February. The crop entirely escaped.

Mr. C. Jeffery, farmer, Antony, states that Mr Peel, at Trenant Park, planted his potatoes in October, manured with salt, soot, and charcoal, and had an excellent crop, without one single diseased potato.

The Bishop of Carlisle reports from Cumberland that no disease appeared in October-planted potatoes, when the furrows at the time of planting were dusted with a mixture of soot, salt, charcoal, wood ashes, and gas tar.—*Gardeners' Chronicle.*

Adulterated Flour Detector.—M. Boland, a baker, of Paris, has invented an ingenious instrument, called by him the aleurometer, the purpose of which is to indicate the panifiable properties of wheat flour. The indication depends upon the expansion of the gluten contained in a given quantity of flour, say 500 grains, when freed by elutriation from its starch. A ball of gluten being placed in a cylinder to which a

piston is fitted, the apparatus is exposed to a temperature of 150 degrees; as the gluten dilates, its degree of dilatation is marked by the piston rod. If 25 degrees of dilatation are not obtained, the flour is rejected, the best flour usually giving from 38 to 50 degrees. From experiments which have been made by Chevreul and Payen, it appears that the dilatation shows correctly the degree of deterioration which the wheat flour has undergone; and consequently the aleurometer offers itself as an instrument of practical importance. The same principle may be applied to various other purposes; indeed, Silberman has constructed a new alcoholmeter, of a character similar to the aleurometer.—*Athenæum.*

Guano a Preventive of the Potato Disease.—The "Gardeners' Chronicle" having made extensive inquiries as to the effect of the time of planting, the use of lime and the several sorts of manures upon the potato as promoting or preventing disease, has given the following results of the use of guano and farm-yard dung:—"Guano.—Under all circumstances, two crops manured with guano have been saved out of three; that, if applied to autumn and early spring-planted crops, it is advantageous, but that it is dangerous in late planting. Farm-yard Dung.—There can be no doubt that, if used abundantly, in a very rank condition, and especially in this state to late-planted crops, it is an extremely disadvantageous application.

This is not merely the result of a single experiment of three crops, but of thirty-six good cases to twenty-four bad. The editor states, moreover—"We do not find, upon searching through our columns for the last four years, that we have more than three bad cases against nine reported to be good." This may be considered triumphant testimony in favor of guano. We need scarcely add that the Peruvian should be used, and care taken to obtain it genuine.—*Mark-Lane Express.*

The Value of Ornamental Shrubs in England.—Three hundred and seventy-eight lots of Camellias, the greater portion of them plants of a large size, and a few lots of Rhododendrons and Andromeda floribunda were brought to the hammer last week by Mr. Stevens, in Messrs. Loddiges' nursery, Hackney. The highest price realized on the occasion was 19l. 8s. 6d. for Camellia incarnata, a magnificent tree 15 feet high; Speciosa, 9 feet high, fetched 19l.; Altheæflora, 10 feet, 14l.; Chandlerii, 12 feet, a magnificent tree, 14l.; Myrtifolia, 12 feet, 12l.; Rossii, 10 feet, 9l. 10s.; double white, 5 feet, 9l. 15s.; Eximia, 12 feet, 9l.; and Corallina, 8 feet, 9l. 15s.; the other lots fetched from 2l. to 8l. each. Rhododendron nilagiricum fetched 2l. 17s. 6d.; R. barbatum, 1l. 12s.; and plants of R. robustum, from 1l. 18s. to 2l. 2s. A specimen of R. arboreum, 8 feet high, fetched 4l. 15s.; and handsome plants of Andromeda floribunda, 17s. each.

Interesting Experiment in Feeding Cows.—In Switzerland they estimate that hay loses at least a third of its nutritive value by the process of fermentation. The following experiments were made upon cows:—Thirteen cows were put up, and each got daily 36 lbs. of newly-made hay, and gave, one with the other, 25 lbs. of milk; the same got afterwards, and during 15 days, 36 lbs. of old hay of the preceding year, from the same meadow. They gave, after the fifth day, 20 lbs. of milk; after 10 days, 14 lbs.; and the last two days, only 12 lbs. The same cows were again put upon new hay, and gave, after the fifth day, 18 lbs.; after the tenth day, 22 lbs.; and after the fifteenth, gave again 25 lbs. This experiment shows clearly that the hay during the process of fermentation loses a great deal of its nutritive value, and if there were means of preventing the fermentation, it would be of great service.

Editors' Table.

NEW VARIETIES OF GRAIN FROM ABROAD.—A great variety of grains have been sent us by James Townsend, Esq., which have been recently procured in different parts of Europe, Western Asia, &c., where they are considered as among their best sorts. Having been collected at considerable expense and trouble, and a large portion of them gratuitously distributed, the balance, embracing about 150 packages of samples, are held at the price of 25 cents per sample, to partially reimburse the expenses incurred in procuring them. They embrace 20 varieties of wheat, 10 of barley, 9 of oats, 5 of rye, and 3 of buckwheat. Any orders for the above may be addressed to A. B. Allen & Co., 189 Water street, New York.

THE NEXT ANNUAL FAIR OF N. Y. STATE AGRICULTURAL SOCIETY.—We understand that Governor Fish has received a letter from President Taylor, saying that he intended to be present at the State Fair, to be held at Syracuse on the 12th of September next. If such be the case, it is predicted that, with this attraction, alone, it will be the largest fair ever witnessed in the United States. Thousands of people from various parts of the Union, as well as distinguished persons from abroad will eagerly embrace this opportunity to see the as yet unconquered hero of some of the greatest battles, military and political, ever fought upon this continent.

HONOR TO WHOM HONOR, &c.—On the 31st of January last, the Institute of France awarded the "Cross of the Legion of Honor" to Dr. Charles T. Jackson, of Boston, as the prime discoverer of etherization. It is extremely gratifying to find that our own views concur with the decision which has been pronounced in favor of Dr. Jackson, by the most enlightened body of scientific men in the world.

COMPARATIVE PRICES OF CORN.—The average price of Indian Corn, at New York, is estimated at 56 cents per bushel; at New Orleans, 40 cents; and at St. Louis, 27 cents.

PROLIFIC GEESSE.—We are informed, says the Boston Cultivator, that Mr. John Alney, of Tiverton, R. I., raised the last year, from four geese and one gander, one hundred and one goslings; and from the same flock in the year 1849, ninety-five goslings; total, 196 goslings in two years.

CRANBERRIES.—This fruit grows abundantly in Wisconsin and Minnesota. It is proposed to call the latter the "Cranberry State."

A NEW EVERGREEN.—The Florida yew, (*Torreya taxifolia*), is a handsome looking tree, somewhat resembling the European yew, but not so dark in its foliage, and is sufficiently hardy to withstand the climate of New York, and probably that of localities further north. It would form an appropriate object for planting in rural cemeteries, and is well worthy of general cultivation as an ornamental tree.

PRACTICAL AGRICULTURE; or an Attempt to reduce the Theory and Practice to the Comprehension of the Operator. By William Partridge. New York: pp. 42, 12mo. The author of this little work is well known to many of our readers as one of the contributors to our early volumes, which, it is presumed would be a sufficient guarantee for them to read the work before us. It appears that up to the age of thirty, he was attentive to farming in the old country, as a secondary object, operating on one hundred and twenty acres. During that time, he made many experiments, on land and fruit trees, which have lately been brought forward as new; such as draining, pairing and burning, using cool ashes, &c. &c. The work may be had of C. M. Saxton, 121 Fulton street, at 25 cents.

A PRACTICAL TREATISE ON THE MANAGEMENT OF FRUIT TREES; with descriptive lists of the most valuable fruits for general cultivation; adapted to the interior of New England. By George Jaques. Worcester, Mass.: Erastus N. Tucker, pp. 256, 12mo. Price, 50 cents. This little work, as indicated in the title, is of a local character, and appears to have been founded on nearly eight years' practical experience of the author in the cultivation of nursery and orchard trees. From a hasty glance through its pages, we should judge that it would be a useful guide for the section of country for which it is designed.

THE FAMILY KITCHEN GARDENER; containing plain and accurate descriptions of all the different species and varieties of culinary vegetables; with their botanical, English, French, and German names, alphabetically arranged, and the best mode of cultivating them, in the garden or under glass; with a description of implements and medicinal herbs in general use; also, descriptions and characters of the most select fruits, their management, propagation, and culture. Illustrated with twenty-five engravings. By Robert Buist. New York: J. C. Riker, pp. 216, 12mo. Price, 75 cents. Nothing appears to have been admitted in this work that is not of a practical character. "It may be received as the result of thirty years' experience and observation on the cultivation of vegetables and fruits."

YANKEE HOGS.—The following is a list of hogs and pigs slaughtered the last season in the town of Chesterfield, Hampshire county, Massachusetts:—

	Weight.
1 hog by Chapman Rhodes, - -	611 lbs.
1 " Samuel House, - -	532 "
1 " " - -	471 "
1 " Edsol Witherell, - -	497 "
1 " Edwin Damon, - -	493 "
1 " " - -	492 "
1 " Ebenezer Edwards, - -	477 "
1 " " - -	469 "
1 " " - -	441 "
1 " Jonathan Ring, - -	428 "
1 " " - -	406 "
1 " Levi Witherell, - -	429 "
1 " " - -	419 "
1 " Daniel Sylvester, - -	429 "
1 Pig, 8 months old, by Lewis Higgins, -	401 "
1 " 9 months old, by David M. Todd, -	426 "
1 " 7 months 23 days old, by " -	392 "
1 " 9 months old, by Job C. Cudworth -	396 "

The average weight of six of the best hogs was 517 lbs.; and that of the pigs, 384 lbs.

ARABIAN CALVES.—The two calves procured by Lieut. Lynch, in his Dead-Sea Expedition, and presented by him, through the Secretary of the Navy, to the agriculturists of Virginia, were brought to Richmond on Wednesday. They are red, like most of the Devonshire breed, but are taller and more slender. Their heads and limbs remind one very much of the deer.—*Neal's Sat. Gazette.*

THE BEST KNIFE CLEANER.—Charcoal, ground to powder, is said to be one of the best things ever discovered to clean knives.

HOW TO GET RID OF CROWS.—A cotemporary says, that some acute fellow "down east" has discovered a novel mode of getting rid of the crows. You must take some shelled corn, and run a horse hair through the grain with a needle, and tie a knot in the hair close to the grain, and sow them in corn fields, and the crows will pick up this grain with the hair in it, and it will tickle them, and they will kill themselves a scratching. This is giving them the "Old Scratch" with a vengeance.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, APRIL 16, 1849.

ASHES, Pots,.....per 100 lbs.	\$7 00	to	\$7 00
Pearls,.....do.	7 00	"	7 25
BALE ROPE,.....lb.	6 "	"	8 "
BARK, Quercitron,.....ton.	26 00	"	28 00
BEANS, White,.....bush.	75 "	"	1 25
BEEFWAX, Am. Yellow,.....lb.	19 "	"	22 "
BOLT ROPE,.....do.	11 "	"	12 "
BONES, ground,.....bush.	40 "	"	55 "
BRISTLES, American,.....lb.	25 "	"	65 "
BUTTER, Table,.....do.	15 "	"	25 "
Shipping,.....do.	9 "	"	15 "
CANDLES, Mould, Tallow,.....do.	10 "	"	13 "
Sperm,.....do.	25 "	"	40 "
Stearic,.....do.	20 "	"	25 "
CHEESE,.....do.	5 "	"	10 "
COAL, Anthracite,.....2,000 lbs.	5 00	"	6 00
CORDAGE, American,.....lb.	11 "	"	13 "
COTTON,.....do.	6 "	"	10 "
COTTON BAGGING, Amer. hemp,.....yard.	15 "	"	16 "
FEATHERS,.....lb.	30 "	"	40 "
FLAX, American,.....do.	8 "	"	9 "
FLOUR, Northern, Southern and West'n bbl.	4 50	"	5 75
Fancy,.....do.	6 00	"	6 75
Richmond City Mills,.....do.	6 75	"	7 00
Buckwheat,.....do.	—	"	—
Rye,.....do.	2 75	"	2 88
GRAIN—Wheat, Western,.....bush.	1 00	"	1 20
Red and Mixed,.....do.	95 "	"	1 10
Rye,.....do.	58 "	"	59 "
Corn, Northern,.....do.	55 "	"	60 "
Southern,.....do.	52 "	"	57 "
Barley,.....do.	62 "	"	65 "
Oats,.....do.	29 "	"	40 "
GUANO, Peruvian,.....2,000 lbs.	50 00	"	50 00
Patagonian,.....do.	35 00	"	40 00
HAY, in bales,.....do.	42 "	"	50 "
HEMP, Russia, clean,.....ton.	215 00	"	230 00
American, water-rotted,.....do.	160 00	"	220 00
American, dew-rotted,.....do.	140 00	"	200 00
HIDES, Dry Southern,.....do.	7 "	"	8 "
HOPS,.....lb.	4 "	"	12 "
HORNS,.....100.	2 00	"	10 00
LEAD, pig,.....do.	4 90	"	5 00
Pipes for Pumps, &c.....lb.	5 "	"	7 "
MEAL, Corn,.....bbl.	2 50	"	2 75
Corn,.....lhd.	13 00	"	13 50
MOLASSES, New Orleans,.....gal.	25 "	"	30 "
MUSTARD, American,.....lb.	16 "	"	31 "
NAVAL STORES—Tar,.....bbl.	1 75	"	2 00
Pitch,.....do.	1 25	"	1 75
Rosin,.....do.	1 00	"	1 13
Turpentine,.....do.	2 50	"	3 00
Spirits Turpentine, Southern,.....gal.	33 "	"	35 "
OIL, Linseed, American,.....do.	59 "	"	61 "
Castor,.....do.	1 25	"	1 50
Lard,.....do.	60 "	"	70 "
OIL CAKE,.....100 lbs.	1 00	"	1 50
PEAS, Field,.....bush.	1 25	"	1 25
Black-eyed,.....2 do.	1 25	"	1 50
PLASTER OF PARIS,.....ton.	2 25	"	3 00
Ground, in bbls,.....of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,.....bbl.	9 00	"	13 50
Prime,.....do.	5 00	"	8 50
Smoked.....lb.	6 "	"	12 "
Rounds, in pickle,.....do.	4 "	"	6 "
Pork, Mess,.....bbl.	10 00	"	13 00
Prime,.....do.	7 00	"	10 00
Lard,.....lb.	7 "	"	8 "
Bacon sides, Smoked,.....do.	3 "	"	4 1/2
In pickle,.....do.	3 "	"	4 "
Hams, Smoked,.....do.	5 "	"	9 "
Pickled,.....do.	4 "	"	7 "
Shoulders, Smoked,.....do.	4 "	"	5 "
Pickled,.....do.	3 "	"	4 "
RICE,.....100 lbs.	2 88	"	3 38
SALT,.....sack.	1 17	"	1 30
Common,.....bush.	20 "	"	25 "
SEEDS—Clover,.....lb.	6 "	"	7 1/2
Timothy,.....bush.	2 00	"	3 50
Flax, clean.....do.	1 30	"	1 40
rough,.....do.	1 25	"	1 30
SODA, Ash, cont'g 89 per cent. soda,.....lb.	3 "	"	—
Sulphate Soda, ground,.....do.	1 "	"	—
SUGAR, New Orleans,.....do.	4 "	"	6 "
SUMAC, American,.....ton.	35 00	"	37 00
TALLOW,.....lb.	7 "	"	8 1/2
TOBACCO,.....do.	3 "	"	8 "
WHISKEY, American,.....gal.	21 "	"	23 "
WOOLS, Saxony,.....lb.	35 "	"	60 "
Merino,.....do.	25 "	"	35 "
Half-blood,.....do.	20 "	"	25 "
Common do,.....do.	18 "	"	20 "

NEW-YORK CATTLE MARKET.

At Market.—1,300 Beef Cattle, (100 southern, the remainder from this state and east,) 80 Cows and Calves, and 3,000 Sheep and Lambs.

Beef Cattle.—The market is firm in prices. The sales run from \$6 to \$9 per hundred. The number of head on hand is estimated at 200.

Cows and Calves.—All taken at from \$20 to \$45.

Sheep and Lambs.—They are getting more plenty. Sales from \$1.75 to \$5.75. The number unsold, 400.

REMARKS.—Grain and Flour have fallen considerably since our last; Pork somewhat less. In other products we have little change to notice.

The Weather is fine, though unusually cool, and consequently the spring rather backward. Wheat is looking well, and is now very forward at the south. In Georgia, it will be soon ready to cut. We hear fair accounts, thus far, from the cane, cotton, rice, and tobacco; but it is much too early to give any opinion as to these crops. Northern grain and grass are getting up well, and the indications are favorable.

TO CORRESPONDENTS.—Communications have been received from R. L. Colt, Solon Robinson, C. Samuel Allen, H. N. Baker, Calvin Coulter, Jr., J. McKinstry, E. S., and Reviewer.

Application of Guano and Poudrette.—D. R. S., of West Norwalk, Ct.—Guano may be sown on meadows any time previous to the first of June, at the rate of 300 lbs. to the acre. It should be mixed with about ten times its weight of potash marl or rich loam, with a slight sprinkling of charcoal dust or plaster of Paris. A half pint of poudrette applied in the hill, at the time of planting Indian corn, followed by spreading around it about the same quantity of leached ashes at the second hoeing, has been attended with good results.

PERUVIAN GUANO

FOR Sale, at Bating Hollow, Long Island, by
Jy3t

AZEI. DOWNS.

MORSE'S GREY.

THIS celebrated horse will stand the ensuing season at the stable of James Rice in Spiegletown, three miles north of the village of Lansingburgh. He is a beautiful dapple grey, 15½ hands high, strongly and finely proportioned, has trotted his mile in 2 minutes and 50 seconds, is a square trotter, and combines first-rate trotting qualities and great powers of endurance, with unsurpassed gentleness and docility. His colts are justly celebrated for speed, bottom, and good temper, and are eagerly sought after in the market, and command prices ranging from \$150 to \$500. The very high reputation of his stock as road horses, and the extraordinary prices they command, renders him by far the most profitable horse to breed from of any in the country. Mares sent from a distance will have such attendance and keeping as the owners desire, and upon the most reasonable terms. The horse will be under the charge of his former owner, Mr. Calvin Morse. Terms, \$10 the season. Insurance to be agreed upon. Communications addressed, J. T. GRANT, P. M. Junction, Rensselaer county, will receive prompt attention. my 3t

COLE'S AMERICAN FRUIT BOOK.

S. W. COLE, Esq., Editor of the New-England Farmer, and author of the popular work entitled the American Veterinarian, of which 22,000 copies have already been published, has, after years of patient labor and close investigation, completed his great work, entitled "Cole's American Fruit Book,"—a work which we believe is destined to have a more widely-extended circulation than any similar work, ever before offered to the American public. We believe so for the following reasons:—

1st. It is a mature work and a practical one, one upon which Mr. Cole has spent many years of study and close examination, and knowing the wants of the community, has met those wants in a plain, concise, and familiar manner, avoiding technicalities, and scientific specifications and definitions, useful only to the few, he has made a work intelligible to all. It is emphatically a book for the people.

2d. It will have an unprecedented sale on account of its cheapness. It makes a volume of 288 closely-printed pages, illustrated with nearly two hundred beautifully-executed engravings, by Brown, and is sold for 50 cents firmly bound in leather, and 62½ cents in fancy cloth, with gilt backs. It contains full directions for raising, propagating and managing fruit trees, shrubs, and plants, with a description of the best varieties of fruits, embracing several new and valuable kinds; embellished with engravings, and outlines of fruit trees, and various other designs.

100 agents, active, intelligent, and honest, are wanted to sell this book, in every state in the Union. A cash capital of from \$25 to \$50 will be necessary. Address, (post paid,) the publishers, John P. Jewett & Co., 23 Cornhill, Boston. C. M. SEXTON, Agent for N. Y. city, and southern counties of New Jersey. apr2t

SHORTHORN DURHAMS AT AUCTION.

THE subscriber being about to dispose of 50 acres of his farm, will offer at public sale 30 head of Shorthorn Durham cattle, (being about one half of his present herd,) on the 13th day of June next, at 11 o'clock in the forenoon, consisting of yearlings, two-year and three-year-old heifers, cows, and 11 young bulls from 10 months to 2½ years old. Great care has been observed, and considerable expense incurred in selecting and breeding this stock, with reference to purity of blood and dairy qualities. The awards of the New-York State Agricultural Society, and the American Institute, of New York, attest the estimation in which this stock is held, whenever it has been exhibited for competition. About eight head of the above cattle are a purchase made from E. P. Prentice, Esq., of Albany, last May, being all of the shorthorns of that gentleman, and the product of his four selected cows, retained at his public sale. The animals have the strain of blood of the herd of Mr. Whitaker, of England, from whom Mr. Prentice made his principal importations. The other part of the lot of young animals partakes largely of the blood of the celebrated herd of Thomas Bates, Esq., of Yorkshire, England, from whom my importations have been derived, and are mostly of the get of my imported bulls, Duke of Wellington, and the premium bull Meteor. The heifers and cows are and will be principally in calf by these bulls.

For the information of southern gentlemen, who desire to introduce Durham stock into that region, and who entertain the opinion that climate is incongenial to its successful propagation there, I here introduce an extract from a letter I received from A. G. Summer, Esq., editor of the "South Carolinian," dated Columbia, 25th January, 1849.

"The bull you sold Col. Hampton, of this state, gives him great satisfaction. He is a fine animal and I only wish you could see some 20 head of his get now in his yard. They are the most superb yearlings ever bred in the south."

Further particulars and pedigrees of the stock will be issued one month previous to the sale. A credit of 6 to 12 months will be given.

GEO. YAIL.

apr.3t

Troy, N. Y., April 1st, 1849.

STATIONERY, BLANK BOOKS, AND PAPER.**Francis & Loutrel, No. 77 Maiden Lane, N. Y.**

MANUFACTURE all kinds of Blank Books and Stationery articles—Diamond Point Gold Pens—Letter Copying Presses—Manifold Letter Writers—superior Croton Ink, warranted to retain its jet-black color, which they sell at the very lowest prices.

We have also on hand every description of **Foreign PAPER** and **STATIONERY**—Cap, Letter, and Note Papers, Envelopes, Perforated Board, Bristol Board, Drawing Papers—Copy Books, Pocket Books, Card Cases, Port Folios, Scrap Books—Gold Paper, Tissue Paper—Chess Men, Backgammon Boards—Wax, Waters, Slates, Pencils—Gold and Silver Pencil Cases—Writing Desks—Work Boxes—Quills—Tin Cash and Deed Boxes—and all articles kept by Stationers, at remarkably low prices.

Books suitable for County Clerks and Public Offices supplied.

Printing, Ruling, and Binding executed at the lowest rates.

We should be pleased to have a call from those requiring articles in our line. Orders by mail will receive attention.

LEWIS FRANCIS,
CYRUS H. LOUTREL,

FRANCIS & LOUTREL,

Stationers, 77 Maiden Lane, N. Y.
Sept. 1yr.**COMMERCIAL GARDEN AND NURSERY.**

PARSONS & CO., at Flushing, near New York. The proprietors of this establishment invite public attention to their large assortment of every desirable variety of Fruit and Ornamental Tree or Shrub. Their importations of everything new in Europe are annually continued, and they offer a very large variety of Ornamental Trees and Shrubs imported expressly for arboretums and pleasure grounds. Their collection of Roses is annually enriched by novelties from abroad, many of which may be found described in their new work on the Rose, recently published. Fruit Trees receive their particular attention, and are propagated under their personal supervision; this care, with their possession of extensive specimen grounds, in which is tested every variety of fruit they cultivate, enables them confidently to guarantee the genuineness of the varieties.

Their care in pruning and cultivation enables them also to send out thrifty and well-formed trees. From their large scale of propagation, they can offer to dealers very liberal discounts, where hundreds or thousands are taken. Orders or inquiries can be addressed to the proprietors at Flushing, near New York, where catalogues will also be furnished. They have established a Branch at Brighton Depot near Boston and by the entire success of their trees transplanted thither have thoroughly proved the superior adaptation of Long-Island Trees to the soil and climate of any part of New England. This they attribute to the perfect maturity attained by the wood before frost, which renders the trees suitable for transportation to any latitude.

At the season of transplanting, a salesman will be at their Brighton Branch to furnish those who may prefer obtaining their supply thence.

mhtf

VALUABLE REAL ESTATE FOR SALE IN VIRGINIA.

WITH a view of locating himself near a town for the convenience of educating his children, the subscriber offers for sale, on accommodating terms, one of the most productive estates in the northern neck of Virginia, within three miles of Potomac River, thirty miles of Alexandria, and twenty of Fredericksburg. This estate, consisting of several tracts, contains 25,000 acres, and is susceptible of division into three large farms, upon two of which are comfortable dwellings, and the accommodations required for a large family, with flourishing and productive orchards of choice fruits; on other portions of the estate there are several plain and comfortable dwellings. There are 500 acres of rich low grounds, which yield an average of 50 bushels of corn to the acre. The average from 150-acre fields of high low grounds is, in ordinary seasons, 35 bushels to the acre. The arable lands are for the most part in a high state of improvement, clover and plaster having been used for 25 years, and recently lime in large quantities. The barns upon two of the farms are within a mile of a navigable creek emptying into the Potomac. The wheat crop varies according to the soil, from 10 to 20 bushels to the acre. The average of the oat crop is 30 bushels to the acre. The freight on grain raised on this estate is per bushel, 3 cents to Alexandria and Georgetown, 5 cents to Baltimore, and 6 cents to Richmond. Upon a part of the tract, there is a good grist and saw mill. There are more than 1,000 acres of the original growth of timber, consisting of white and red oak, chestnut, yellow pine, some hickory and black walnut. The above estate is so conveniently supplied with wood for enclosures and fuel, and with water, as to admit of divisions among a number of purchasers preferring to own small tracts of land. Persons wishing to purchase the whole, or part of the premises, are invited to visit and examine them, and such as may desire more particular information, will please to address the subscriber, near Dumfries, Virginia, John Moncure, near Falmouth, Va., or Wm. H. Fitzhugh, Jr., Fredericksburg, Va. my It. WM. H. FITZHUGH.

THE INDEPENDENT,

A NEW RELIGIOUS NEWSPAPER, published weekly, by S. W. BENEDICT. Office 201 William street, N. Y.

This paper is under the united editorial control of Leonard Bacon, D.D., of New Haven, Rev. Joseph P. Thompson, of New York, Pastor of the Broadway Tabernacle Church, and Rev. Richard S. Storrs, Jr., of Brooklyn, Pastor of the Church of the Pilgrims. The most efficient assistance has also been secured in all the departments of the paper, both foreign and domestic, and everything that transpires in any part of the world, affecting the condition of man, will find the earliest record in its columns.

The paper is not the organ of any Christian sect or denomination; but as its editors and proprietors are all of them connected with the Congregational Churches of this city and Brooklyn, they will naturally look to their brethren connected with such churches, both at the east and the west, for sympathy and support. In return, they will endeavor to give them such information, advice or instruction, as may be most suited to their condition and wants as members of the great family of Christ.

The size of the paper is the same as of the largest of the other religious papers in this city.

Terms.—The price will be \$2.50 cents per annum for single subscribers, payable in advance.

Clergymen sending us four subscribers with \$10, will be allowed a fifth copy gratis for one year.

Advertisements of books, periodicals, schools, and of such matter as may be particularly important to churches, or religious families, will be admitted at the rate of 75 cents for 16 lines for the first insertion, and 50 cts. each subsequent insertion. f.3t

VIRGINIA LANDS.

THE attention of Northern Farmers who wish to purchase in Fairfax County, Va., is invited particularly to two farms for sale, three miles east from Fairfax Court House, thirteenth from Alexandria, and fourteen from the city of Washington. There are no buildings on either tract, but, by following the custom of the country, comfortable and temporary ones can be cheaply built. The soil is well adapted to farming purposes, and there is timber on them, near two sawmills.

These farms would sell in the north, for from \$50 to \$100 per acre, and can be bought here in a more pleasant and healthy climate, one for eight, the other ten dollars per acre, on easy terms, and a good title given.

Further information given, if requested, by T. R. Love, trustee, either personally, or by letter, (postage paid,) directed to Fairfax Court House, Va.

f. tf.

H. FULLER.

LAND FOR SALE.

FOR SALE—2,000 acres of land lying in the marl region of Eastern Virginia, and within two to seven miles of the town of Fredericksburg. Apply to LAYTON Y. ATKINS, dec. 1yr. Fredericksburg, Va.

ANTHONY & EMERSON'S DOUBLE-ACTING ROTARY CHURN.

The attention of dairymen and persons interested in good butter is solicited to an examination of the merits of the above invention.

The proprietors feel confident that, upon investigation and trial, it will be pronounced the most *Practical and Common-sense Churn* ever brought before a discriminating public. The abundant testimonials, the universal approbation, and the spontaneous acknowledgments of all who see the churn in operation, or examine its principles, furnish ample proof of its merits.

NOTICES OF THE PRESS.

The operation of this churn before the Farmer's Club, in Wilmington, Del., is thus related by Col. J. S. Skinner, editor of the *Flow, the Loom, and the Anvil*:-

Until dinner was announced, the chief attraction was which Anthony's famous "Double-Acting Rotary" would produce, that the Mr. Emerson had brought. A demonstration of its miraculous members.

Like Maelzel with his chess player, Mr. Emerson exposed the interior, to show that there was no witch nor witchcraft about it; and truly the whole contrivance seemed to be as simple as a salt box. Two gallons of fresh milk were there-upon poured into it, and every man pulled out his stopwatch to note its performance, six minutes being allowed. Odds in favor of time. Away went the churn, turning as light as a little, old grindstone, in the country, worn down to the size of a breakfast plate, and behold, at the end of five minutes the operator took off the cover and exposed the butyaceous particles finely separated from the milk, and ready to be served up and submitted to another sense at the dinner table.

Rotary Churn.-Messrs. Anthony & Emerson are exhibiting a patent Double-Acting Rotary Churn, in this city, by which excellent butter is produced in two minutes from sweet milk, a thing previously deemed impossible. It appears to be an excellent machine, and will save the producers of butter an immensity of labor.-*Philadelphia Ledger*.

We recommend to the examination of all interested in good living, the newly-invented *Double-Acting Rotary Churn*, by Messrs. Anthony & Emerson. One of its best recommendations is its *great simplicity*. It operates upon a beautiful principle-the mechanical action of the air-which is mingled with the cream in such a manner, that a thorough separation of the particles takes place, preventing the cream from frothing upon the surface, and doing its work with astonishing rapidity, and in the most thorough manner.-*Pennsylvania Inquirer*

We always take pleasure in recommending to the public all labor-saving and useful inventions. One of the best which has been seen for a long time, is Anthony & Emerson's Double-Acting Rotary Churn. At the churning yesterday at 12 o'clock, good butter was made from sweet milk in three minutes. We understand that the proprietors are rapidly disposing of the rights for the different states, and it seems to us to afford an admirable opportunity for a safe and profitable investment.-*North-American and U. S. Gazette*.

Anthony & Emerson's Double-Acting Rotary Churn, the advertisement of which will be found in another column, is an invention which has attracted a great deal of attention and commanded universal commendation for its simplicity and the extraordinary rapidity with which it performs its work, producing butter from the milk in about three minutes time. Those who examine it will be struck with amazement that anything so exceedingly simple should not have been thought of before.-*N. Y. Courier and Inquirer*.

Double-Acting Rotary Churn.-This is one of those simple inventions which are calculated to be very useful, because they are truly labor-saving. We have seen butter made in three minutes from milk bought in our streets, which was not likely to be very pure.-*Daily Sun*.

Revolution in Churning.-We learn that Messrs. Anthony & Emerson, the fortunate inventors of the *Double-Acting Rotary Churn*, advertised in this paper, have opened an office for the disposal of rights and churns, at 2 John street, New York, where they are creating an extraordinary sensation among the dairy men and farmers of the interior, who flock to examine the invention, and win universally agree to its great superiority over any other butter-making affair now in existence. Did we not feel fully assured of the superiority of this great labor-saving invention, we should scarcely refer to it so frequently; but having observed it quite carefully, we heartily recommend it to our agricultural readers.-*American Courier*

The public are invited to call and examine the machine, and see its utility tested. It combines the following valuable qualities:-

1st. It produces more butter from the same amount of milk or cream, than the ordinary method, as it does its work in a more thorough and scientific manner.

2d. It is the cheapest, simplest, and most convenient churn ever invented, embodying the true philosophical principles of butter-making.

3d. New milk, after being churned, is sweet, and suitable for family use.

4th. Instead of feeding the calf with milk direct from the cow, churned sweet milk will answer every purpose. By this process the butter is all profit!

5th. It is a great labor-saving machine. By simply turning a crank, butter is produced from fresh milk in from three to six minutes, and from cream in less time. (It requires longer time to produce butter if the cream is cold. The best temperature is 65°.)

6th. It acts upon philosophical principles.

The butter is produced by the introduction of the *mechanical and chemical action of the air*. By the revolution of the dasher, the air is forced between the globules of the cream upon the one side, and the production of a vacuum on the other, sucks up the particles of cream by the cavities causing a breaking up of the globules, and a separating of the *fatty or butter* particles of the cream from the *butter-milk*, or more fluid portions, producing more butter from the same amount of milk or cream than any other churn, for the simple reason that it does its work in a more thorough manner.

We offer it upon the following terms:- If the churn does not prove as recommended, it may be returned, and the money will be refunded.

We have constantly on hand, and for sale, five different sizes, prices \$3, \$4, \$5, \$6 and \$12, capable of churning at one time, 13, 14, 15, 16 and 20 gallons of milk or cream. Also, churns of any size made to order.

Exclusive county rights to manufacture and sell in the states of New York and New Jersey, for sale at about the rate of one hundred dollars for each 10,000 inhabitants.

A churning takes place every day, at 12 o'clock, at our Warehouse, 2 John street, where every one interested is invited to call.

A discount of 25 per cent. is allowed to the trade.

All orders, postage paid, addressed to the subscriber, will be promptly attended to.

T. DOUGLASS, Agent,
No. 2 John street, cor. of Broadway, New York City.

CAUTION!

AS certain houses in this city are in the habit of selling Agricultural and Horticultural Implements, and Field and Garden Seeds, representing them as coming from our establishment, the public is cautioned to be on their guard against imposition. All implements and parcels, sold by us, which it is possible to mark, will be found branded "A. B. Allen & Co., 189 and 191 Water street, New York."

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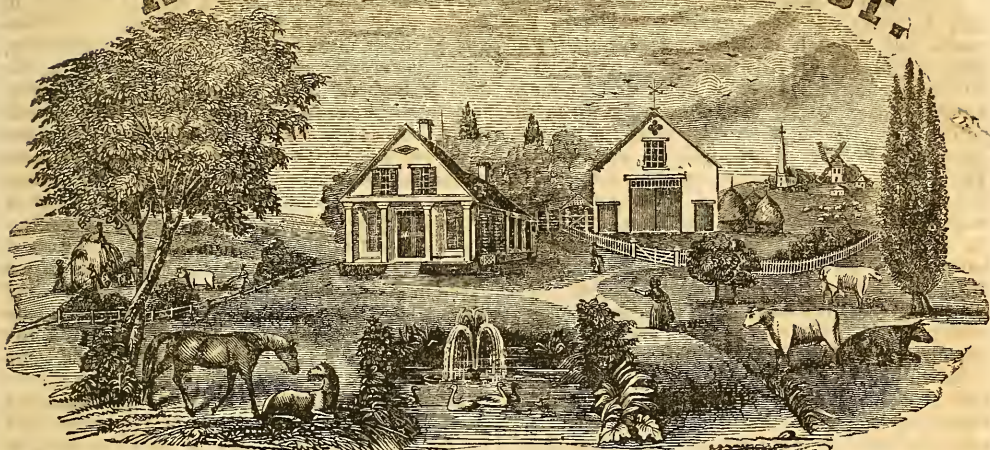
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AMERICAN AGRICULTURIST.



Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

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MESSRS. ALLEN, EDITORS.

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WORK FOR JUNE, NORTH AND WEST.

General Remarks.—A portion of the work neglected to be done in May, or impracticable to be performed from the state of the climate, or the backwardness of the season, as recommended in our last number, may be accomplished early this month. Such as the *felling of resinous timber, hauling fuel, sowing Indian corn for soiling, planting corn and potatoes, as general crops, shearing sheep, sacking wool, &c., &c.*

Peeling Bark.—The bark of the hemlock spruce, and of the black oak, (yellow oak of New England,) may now be peeled, without reference to the state of the tide or the face of the moon. If intended for tanners' use, it should be exposed a few days to a hot sun, immediately after being taken off, turning the rind or epidermis side outwards or upwards during foul days and nights, so as to prevent it from becoming wet by rain or dew. When thoroughly dried, it should be carefully housed, or compactly piled up and covered over at the top with refuse boards.

Planting Potatoes.—If your land be rich and warm, and your potatoes are beset with vigorous sprouts, an inch or more in length, they may be planted as late as the 15th of this month, with a prospect of a tolerable crop. For directions for planting, &c., see pp. 155 and 156 of our seventh, and p. 55 of the current volume.

Millet for Soiling Cows.—This plant may be sown for the purpose of soiling any time this month. It will flourish on any soil adapted to the cultivation of Indian corn, but will produce the heaviest crop in a deep, rich loam, refreshed, if necessary, with an abundance of street or barnyard manure. The ground may be prepared as for ordinary crops of corn or grain, and the seed may be sown broadcast, at the rate of about one bushel to the acre, or it may be sown in drills from twelve to

fifteen inches apart. Like Indian corn, when cultivated for soiling, it may be sown at successive periods in order to keep up a regular supply.

Cultivation of Buckwheat.—This valuable grain may be sown any time from the middle of this month and the 20th of July, with a certainty of maturing its seeds. The soils most congenial to buckwheat are those of a light sandy texture, rather dry and warm. Many have failed in the cultivation of this grain in consequence of carelessness and lack of attention in managing it. The soil should not only be replete with soluble, extractive matters, capable of yielding nutriment to the plants, but of such a texture as to admit of its being reduced by the action of the plow and harrow, to a perfectly fine tilth. On clayey soils, this crop has been rarely known to succeed. The most congenial medium is upland green sward, inverted in June. Purity of seed, also, is another important consideration that demands attention. It should be of good quality as to fullness and soundness, and sown at the rate of about a bushel to the acre. Rolling the surface of the soil, after sowing, will be found highly beneficial, as it not only tends to compress the soil around the seed, and thus promote its germination, but greatly facilitates the labor of harvesting—an operation requiring great care in order to prevent the loss of seed.

Cultivation of Ruta-Baga Turnips.—The seed of the ruta-baga or Swedish turnip, may be sown as late as the 15th of this month. It is usually planted after a crop of potatoes, wheat, or Indian corn; but if a virgin soil, or old pasture sward is chosen, it will materially lessen its liability to insects and other enemies. It is generally sown in drills, about two feet apart; and on heavy lands, these should be slightly ridged. The plants must be successively thinned, to prevent interfering with such as are intended to mature, but enough should remain to provide for casualties. Where there is a deficiency, they may be supplied by transplanting during showery weather. They should be left six or eight inches apart in the drills. The Swedish turnip is a gross feeder, and requires either a rich soil or heavy manuring; though the use of fresh manures has been supposed to facilitate the multiplication of enemies. Bones, ground and drilled in with the seed, or a dressing of oyster-shell lime, ashes, plaster, and salt are the best applications that can be made. An early sowing, also, gives time to plant for another crop in case of failure of the first.

Weeding and Hoeing Field Crops.—This should be attended to as soon as the season and the growth of the young plants will admit. In weeding or hoeing your corn, see that all the grubs are dug up and killed, and the hills replanted, wherever they have been destroyed. Plaster, poudrette, wood ashes, or oyster-shell lime may be scattered around the plants at this hoeing or the next.

Destruction of Insects.—All insects injurious to vegetation, such as caterpillars, span worms, striped bugs, rose bugs, &c., &c., should be collected and burnt. Examine the roots of your peach trees and destroy the borers, as practised by Mr. Stoothoff, a notice of which may be found at p. 55, in our seventh volume.

Cutting Grass and Curing Hay.—This must depend on the kinds of grass cultivated. Timothy affords nearly double the quantity of nutriment, if cut after the seed has formed, instead of while in flower, and it is then much more relished by horses and a portion of the stock. This grass, therefore, should never be cut for them, except when the seed is formed. The proper time for harvesting, is between the milk and dough state, when it will nearly ripen after cutting. Orchard grass, on the other hand, although possessing two sevenths more nutritive value for hay in the seed, yet as it is more tender, and much preferred by stock, when cut in flower, and as it continues to grow rapidly afterwards, should be always cut at that time. Even a few days will make an important difference in the value of grass, when cut for hay. The kind of grass, and the stock to which it is to be fed, cannot, therefore, be too closely noted, to detect the precise moment when the grass will best subserve the purpose for which it is intended.

Many farmers do not consider the scorching effects of our cloudless June or July suns, and the consequence is, that hay is too much dried in this country. Unless the grass be very thick and heavy, it will generally cure sufficiently, when exposed in the swath for two days. When shook or stirred out, it should not remain in this condition beyond the first day, or it will thus lose much of its nutritive juices; nor should dew or rain be permitted to fall upon it, unless in cocks. It is better, after partially drying, to expose it for three or four days in this way, and as soon as properly cured, place it under cover. It is a good practice to salt hay when put up, as it is thus secured against damage from occasional greenness; and there is no waste of the salt as it serves the double object after curing the hay, of furnishing salt to the cattle and the manure heap.

Clover should be cut after having fully blossomed and assumed a brownish hue. By close cutting, more forage is secured, and the clover afterwards springs up more rapidly and evenly. The swath, unless very heavy, ought never to be stirred open, but allowed to wilt on the top. It may then be carefully turned over, and when thus partially cured, placed in high slender cocks, and remain till sufficiently dry to remove into the barn. Clover may be housed in a much greener state, by spreading evenly over it in the mow, from ten to twenty quarts of salt per ton. Some add a bushel, but this is more than is either necessary for the clover, or judicious for the stock consuming it; as the purgative effects of too much salt induce a wasteful consumption of the forage. A mixture of alternate layers of dry straw with the clover, by absorbing its juices, answers the same purpose, while it materially improves the flavor of the straw for fodder.

Cutting and Threshing Wheat.—The appearance, or condition, indicating the proper time for cutting wheat, depends on the variety. Thus, when the grain of red wheat can be squeezed between the thumb and finger, without any moisture being forced from it, cutting may always be safely commenced; for it is never better than when harvested in this state, and if cut later, the wheat is seldom so good in quality; besides, serious losses are sometimes sustained, in consequence of high winds when it is

allowed to arrive at a riper state. The white varieties should stand somewhat longer than the red before they are cut.

With respect to the color of the straw, as a sign of maturity, experience has shown, that, if in a healthy state, the ear generally ripens before the straw; the yellowness of the chaff and upper parts of the straw indicates that the crop is fit to cut; and the uniform yellow color of the straw shows that the crop has arrived at maturity, and, if suffered to stand in the field, the kernels are liable to be shaken out by the wind.

Threshing is usually done among extensive farmers, with large machines taken into the field and driven by horse power. If the grain cannot be threshed soon after cutting, it should be carefully stacked, or stored away in barns so as not to mold.

Making Butter.—For full directions for making and curing butter, see pp. 184, 252, and 316, in our fifth, and pp. 173, 207, 214, 226, 228, and 259 in our seventh volume.

Furnishing Stock with Salt.—All cattle, horses, and sheep, living remote from the sea, should be furnished weekly with salt; or what would be better, procure some lumps of mineral salt, weighing several pounds each, and place them in their mangers, or in the pastures, where they can lick them at pleasure. By this means there will be no danger of their eating too much.

Kitchen Garden.—The main point in this month is to preserve the garden free from weeds, which may be done by keeping the surface of the ground clean and loose. Potatoes, (sweet and early,) must now be hoed; cabbages for autumn and winter use may be planted out, and celery transferred into trenches. This should be done in time of rain, or, if in dry weather, late in the afternoon, accompanied with a plentiful watering before and after the plants are removed. Lima and kidney beans may now be sown for a late supply.

Fruit Garden and Orchard.—During this month, and other times, destroy all noxious insects in your power. Prune grape vines, apple and pear trees, but not cherries and other stone fruits. If your peach and apricot trees bear in too great profusion, thin out the fruit, and give what remains a better chance to grow.

Flower Garden and Pleasure Grounds.—Plant out in the borders perennial and herbaceous plants from the seed beds. Box edgings and ornamental trees may now be trimmed.

WORK FOR JUNE, SOUTH.

Cultivation of Sugar Cane.—By the first of this month, the cultivation of a greater portion of the plant and ratoon cane will have been completed. Continue to plow among the cane in old land until July, but not too deep, for there will be danger of wounding the roots.

Cotton and Tobacco.—Keep your cotton and tobacco fields clean, and frequently stir the earth. This will not only keep down the weeds, but greatly aid in resisting drought. The cotton will require the hoes to be passed through it, so as to clear away the weeds left by the plow. Draw the earth lightly around the plants, but do not leave any ridges as thrown up by the plow.

Harvesting Grain.—All grain crops, not yet harvested, will now claim attention. After oats are

cut and stacked, it would be a great benefit to the field to plow under the stubble and sow down with peas, at the rate of a half bushel to three pecks to the acre.

Gathering Hops.—These may be clipped and collected for drying before they begin to turn yellow or brown.

Kitchen Garden.—Sow cabbages, cauliflowers, shalots, dwarf and pole beans, mustard, lettuce, radishes, carrots, cucumbers, melons, squashes, pumpkins, rocket, tomatoes, okra, peppers, Indian corn, and the slips of sweet potatoes; and

“This rule in gardening never forget—
Sow when dry, and plant when wet.”

Fruit Garden, Shrubbery, &c.—Commence the inoculation or budding of your roses and fruit trees. Clip evergreens if they have made a good growth, but not otherwise. Prune ornamental trees and shrubs.

POINTS TO BE CONSIDERED IN THE CHOICE AND ERECTION OF LIGHTNING RODS.

THE most important things to be considered in the choice of lightning rods, are, that they should consist of good conducting materials; good capacity; and a good connexion with moisture in the earth. In addition to these, the area, or extent, of their protecting influence should be regarded; the number of rods required for each building; their position when erected; and the mode of arranging them.

1. They should consist of copper rods, or copper tubes, one half of an inch in diameter when rather short, and three fourths of an inch in diameter when very tall, terminating, in all cases, in a single point at the top, covered with palladium by means of acids or fire.

2. Copper has at least $5\frac{1}{2}$ times more conducting power than bright iron, and palladium nearly 9 times as much. Rusty iron rods or those covered with varnish, or paint, have but feeble conducting powers, probably less than those made of several kinds of well-seasoned wood. No lightning rod, whether composed of copper, iron, or wood, should be painted, or varnished, as that would diminish or destroy their effect.

3. They should penetrate the earth sufficiently far to reach the moist subsoil; or what is better, let them enter a sunken bed of well-burnt charcoal, wood ashes, spent tan bark, or soot, to a depth of three or four feet.

4. In all cases, they should be elevated above every other point of attraction, at least, *four times the diameter of the area, or extent, they are designed to protect*; say, in a common-sized house, which is 40 feet in length, 10 feet above the top of the highest chimney or other object extending above the roof.

5. They must be in one entire piece, united by brazing, if necessary, and should invariably maintain, as near as possible, a perpendicular position, *particularly avoiding all abrupt angles, and short turns.*

6. They should be confined to the buildings, at a distance of about four inches from the walls, by means of iron staples or wooden supports, but not by those covered with copal varnish, nor insulated by means of glass.

ROUGH NOTES BY THE WAY.—No. 8.

I LAST left my readers at Mount Airy, German-town, Pa., from whence I took a course homeward through New Jersey, diverging somewhat from the route usually travelled, in order to see what improvements had been made in the easterly part of this industrious and frugal state.

In that section nearest Philadelphia, considerable attention is paid to raising poultry, which is composed of a medley made up of crosses from the Java, Bucks county, Jersey Blues, large Malay &c., so much mixed from crossing, that it is difficult to obtain a pure breed. The object appears to have been to obtain the largest fowl possible, without regard to name or quality. For this purpose, a breeder will go twenty miles to get a superior "rooster," for which he will pay a very high price. From his progeny, large, fat capons are made and sold at extravagant rates in the New-York and Philadelphia markets to supply the tables of rich families. But, in my humble opinion, the large Malay breed is not the most desirable kind for general use; as the legs of these fowls are long and large; their meat coarse; and they are great eaters, and besides, they lay comparatively but few eggs, which they are very liable to tread upon and break, at the time of sitting. I have bred them in their purity, as well as with all the fore-named crosses, and I am free to say, there is no way to make them profitable except by caponizing them, and afterwards fattening them for market.

The Dorking is a fowl much to be preferred to all others for profit; but as their good qualities have been so minutely described in the back volumes of the *Agriculturist*, it is needless to recapitulate them here. Their scarcity, as well as the high prices at which they are held by those who breed them in their purity, will, for some years, prevent them from coming into general use. Even in England, where they still sell very high, they are by no means a common bird; although they have been bred there, as a distinct variety, for more than half a century. A friend of mine, some time since, paid a guinea each, for a half a dozen of them, having had his choice out of the yard of an English nobleman. He shipped them from London, to my care, with directions to pay the steward of the ship a dollar for each live fowl delivered in New York, where they all arrived safe, and where their progeny can be had in its purity for \$5 per pair.

As to the farming of East Jersey, all that I can learn from intelligent individuals, as well as from my own observations for the last twenty years, the crops, on many farms have been more than doubled within that period. Agricultural papers have had much influence in bringing about this change. A mine of wealth has been opened from the marl beds and lime kilns, the use or application of which has stirred up an inquiry, and a consequent improvement, not before dreamed of. Other fertilizing substances have also been brought into play, such as guano, bone dust, plaster of Paris, poudrette, &c.; but, of all others, guano takes the lead. Where the land is suitable for it, I have seen some of the most astonishing effects from its application, particularly in connection with green-sand marl.

In passing through Morristown, the county seat

of Morris county, a most delightful village for a summer residence, I heard of a man who had sneeringly been represented as a "New-York farmer," a "city farmer," a "book farmer," &c. Knowing that the place he occupied was completely run down, at the time purchased, it being, as was waggishly said, "under two-rail fence," and flat on the ground at that, I was determined to see for myself what had been accomplished by a man almost wholly unacquainted both with the theory and the practice of agriculture.

In 1844, he commenced erecting his buildings, which are peculiar in their structure, all of his own planning, and combining greater convenience, both in his house and out-buildings, than I recollect ever of seeing, from a similar outlay, the whole expenditure not exceeding \$6,000. In the spring of 1847, he moved his family from New York, before which time he had done little more than to set out some fruit trees and repair the border fences. His next object was to accumulate manure, sow, and plow under green crops. By the use of bone dust and other fertilizers, he succeeded in growing a fine crop of buckwheat and oats, which he plowed under as deep as he conveniently could without the aid of a subsoil plow. Into his barnyard, which is partly roofed over, he hauls everything that can be collected suitable for making manure, keeping the surface perfectly dry by covering the whole, as it becomes filthy, with refuse hay and straw. It is estimated that he has on his farm, at the present time, 250 loads, (28 bushels to each load,) of barnyard and pig-sty manure; 300 barrels of poudrette, of his own manufacture; 500 bushels of oyster-shell lime; and 14,000 lbs. of horn shavings; and if anything more is wanted, he will make up the deficiency in guano.

This "gentleman farmer" is also paying much attention to the cultivation of fruit, and has some fine specimens of healthy and rapid-growing trees, which he has taken great pains to set out. In planting them, he first digs large holes, say three or four feet in diameter, the bottoms of which he covers with small stones, then with a rich compost formed of turf, leaf mold, wood ashes, bone dust, and oyster-shell lime. Then, after cutting off the tap root, he sets the tree in the position he wishes it to grow, straightening the other roots horizontally, and fills up the hole with good virgin soil, also mixed with bone dust, wood ashes, and oyster-shell lime. After this, he cultivates his trees as he would a crop of corn.

He is reclaiming his wet lands, (otherwise worthless,) by under-draining, the effects of which already give good evidence that they will soon be worth \$100 per acre, and will pay the interest of three times that amount when they are laid down in grass.

SAMUEL ALLEN.

Morristown, N. J., April, 1849.

EFFECTS OF DISSOLVED AND UNDISSOLVED BONES.—Fear has always been entertained that bones would not operate sensibly on heavy soils; and with *undissolved* bones, there is no question that this fear is well founded; but with *bones dissolved in sulphuric acid*, or otherwise, these fears are groundless.

ADULTERATION OF FOOD.—No. 12.

Wines.—The most frequent fraud in the wine trade, is the mixing of wines of inferior quality with those of a superior grade. In many cases, the cheaper kinds are flavored and substituted for the more expensive ones. For instance, the Sherry, of Xeres, in Spain, is commonly colored by the addition of "must," boiled down to one fifth of its original volume; but in England and elsewhere, by burnt brown sugar, or spirit coloring. Amontillado, another very excellent nutty wine of Spain, is often added to Sherries deficient in flavor; and various other ingredients, as the essential oil of bitter almonds, bitter almonds in substance, cherry-laurel leaves, &c., are also employed for a like purpose.

Alum is added to new and poor red wines to brighten their color; and to pale, faintly-colored Port, the petals of red poppies, beet root, Brazil wood, and logwood are employed, together with the juice of elderberries, bilberries, privet berries, mulberries, and sloes, to deepen its color. In cases where an additional astringency is required, oak sawdust, kino, salts of copper, alum, and extract of rhatany are used. A factitious *boquet* is also often given to wine by the addition of orris root, sweet brier, bitter almonds, elder flowers, clary, &c., &c. When wine has become very acid, it is rendered drinkable again by the addition of a certain quantity of the carbonates of soda, potash, or of lime. Sometimes this acidity is removed by a far more dangerous remedy, namely, by the addition of litharge, ceruse, or the sugar of lead, in which cases, of course, the wine becomes highly poisonous. Moreover, it seems that there is not, as yet known to the trade, any other method of recovering sour or ropy wines, and the small quantity of lead, necessary to be employed, emboldens the dealer to continue its use, by imagining that the very smallness of the quantity prevents any harmful effects following the constant use of wine thus treated. This, however, is not true. For lead, in whatever state it is taken into the stomach, occasions terrible diseases, and wine adulterated with the minutest quantity of it, becomes a slow poison. The merchant, or dealer, who practices this dangerous sophistication, "adds the crime of murder to that of fraud, and deliberately scatters the seeds of disease and death among those consumers who contribute to his emolument." Such, indeed, may be said of all, who adulterate any substance which is employed as food.

This subject may further be elucidated by a continuance of the narrative of the same old broken-down groggeller, alluded to in our last, when his listeners expressed a desire to hear about wine:—"Well, I'll tell you that, too," continued the old toper, "There's scores of 'Wine Guides' that contain instructions for the merchants and publicans. Take a bottle of cheap Port wine, and get a chemist to analyze it. He'll tell you that it contains three ounces of alcohol; fourteen ounces of cider; one ounce and a half of sugar; two scruples of alum; one scruple of tartaric acid; and four ounces of strong decoction of logwood. That's the way I used to make Port wine. Not a drop—not a single drop of the juice of the grape. Ha! ha! Families bought it wholesale—three-and-sixpence the bottle—rank poison! Ha! ha! Nearly all facti-

tious wines possess too high a color, particularly Sherry. The way to make such wines pale, is to put a quart of warm, sheep's blood in the butt, and when it is quite fine, draw it off. I always did that—I didn't tell the families so though."

Some of the audience expressed satisfaction that "the rich were humbugged as well as the poor."

"Humbugged?" ejaculated old Swiggs, "I b'lieve you! I'll tell you how two thirds of all our Port wine is made. Take four gallons of cider; two quarts of cheap brandy; four ounces of ground logwood; half a pound of bruised rhatany root; and one ounce of alum. First infuse the logwood and rhatany in the brandy and a gallon of the cider, for ten days; then strain off the liquor and mix the remainder of the ingredients with it; put it into a cask; keep it for a month, and it will be fit to bottle. Not a drop of the grape juice! Ha! ha! If the color isn't quite right, an infusion of the raspings of red sanders wood in spirits of wine, will soon give it a beautiful red complexion. But then the 'bee's wing.' Ha! ha! The bee's wing. Eh? A solution of cream of tartar, colored with Brazil wood or cochineal, will give you the best crust and bee's wing you can imagine. There's for you! Port made in a month or six weeks can be passed off for wine that's ten or twelve years old! The corks can easily be stained on the lower ends to indicate age, and, consequently, that it has been long bottled; and who's to discover the cheat? Nobody but the chemist. Ha! ha!"

"Well, I've learnt something to-night," said a loungee.

"Learnt something!" repeated the old man; "You know nothing about it yet. You don't know what poison—rank poison—there is in cheap wines; aye, and in the dear ones, too, for that matter. Sugar of lead is the chief ingredient to sweeten soured wine. I needn't tell you that sugar of lead is a deadly poison—any fool knows that. Cerussa, (white lead,) is used to clear muddy wine; and litharge gives a sweet to wines that are too acid. Bitter almonds impart to Port a nutty flavor; cherry-laurel water gives it a boquet; and tincture of raisin seeds endows it with a grapy taste, which it hasn't got and can't otherwise have."

BERMUDA AND CRAB GRASS.

MANY of our southern planters have an ultra hostility to the existence of these grasses on their plantations. We look upon them, however, as a valuable means for contributing to their interests in two ways, namely, *food*, and as fertilizers. If allowed to grow after the crops of corn, cotton, or sugar cane are "laid by," they are in the way of nothing, and produce a good deal of valuable forage, which may be cropped by animals in the fields, or secured as dry feed for winter's use. Few grasses are more abundant or nutritious, when properly grown; and as separate or exclusive objects of cultivation, they will, in many instances, supply what is much needed, and which can in no other way be more economically or abundantly secured. If not wanted for these purposes, they may be plowed under the following spring, and thus

furnish a good dressing of vegetable or green manure to the soil.

To destroy these grasses effectually, where they are decidedly obnoxious, they should be plowed under in the fall, and the roots exposed to frost; and in order to secure this to every part of the roots, let the operation be repeated two or three times while the frost remains. Thorough cultivation the following year, with sweet potatoes upon the field, or any other well-hoed crops, will nearly exterminate such roots as have not been previously killed.

THE COW—HER DISEASES AND MANAGEMENT.— No. 13.

Remarks on Bleeding.—Every person having the direction of the management of cows should be able to perform the operation of bleeding, as circumstances are liable to occur when the life of the animal may be saved by its timely application, where proper assistance cannot be immediately procured.

The method of bleeding requires some attention. In local diseases, or those affecting a part of the body, the nearer it is performed to the seat of the malady, the more effectual it will prove. In the general or constitutional diseases, this is less necessary; and the blood may be drawn from any part where there is a good vein, particularly the neck. It must be remembered that there are two kinds of blood vessels, *arteries* and *veins*. Through the former, the blood is conveyed from the heart towards the extremities of the body where they are connected with the veins which bring it back again to the heart. An artery "pulsates," or "beats"—a vein does not. Hence the difference may readily be known.

The operation of bleeding may be performed by a fleam or lancet; the fleam will be found the best instrument for those who are not acquainted with this process, but the lancet will be preferable where the skin is very thick, and much depth to go through before reaching a vein. These instruments should always be kept bright and free from rust, by means of which, the operation will be more easily performed, and there will be less danger of the orifice, or wound, becoming festered, or foul.

Bleeding from the Nostrils.—This complaint, which is usually attended by a slight fever at its commencement, is more or less profuse, according to the cause from which it proceeds. Although not considered dangerous, to manage it properly, it is necessary that the practitioner should be well acquainted with its origin. When it is accompanied with a fullness and distension of the vessels of the head, it may be considered as an effort of nature to relieve this state, and it should not be stopped too suddenly. When it proceeds even from hard exercise, or over-driving the animal, the evacuation of blood will remove the fever produced by this cause; and unless the discharge is very profuse, it can do but little harm. But when, on the contrary, it occurs with a cow which is weak and debilitated, and it appears evidently to arise from the thin, acrid state of her secretions, then a check must be put to it as quickly as possible.

The stopping of the blood is always in one's power by external applications; and a very good remedy for this purpose is, to

Take of sugar of lead, 2 drachms; and white vitriol, (sulphate of zinc,) 1 drachm,

and dissolve them in a pint of vinegar. A cloth, dipped in this solution, is to be applied cold behind the ears and back of the horns of the animal, and must be removed as often as the cloth gets warm; or, in place of the above,

Take of blue vitriol, (sulphate of copper,) 1 oz.,

and dissolve it in a pint of vinegar, and apply it in the same manner.

When the bleeding is stopped by these means, which seldom fail, attention is to be paid to the cause from whence it proceeds; and when it is accompanied by a fullness either of the general habit or of the head, in particular, or when it proceeds from any suppressed secretion of the skin or other parts, then these external applications should be made in connection with a general bleeding, and medicines to open the bowels, in order to lessen the excess of fluids in the body. The medicines to be administered in this case are as follows:—

Epsom salts, from $\frac{1}{2}$ lb. to $1\frac{1}{2}$ lbs.; saltpetre, $1\frac{1}{2}$ oz.; powdered ginger, $1\frac{1}{2}$ oz.

To be mixed, and given in a pint and a half, or two quarts of water gruel. With these precautions, the cure of this malady will generally be found easy.

ON BREEDING.—No. 1.

THE very little attention that is paid to systematic breeding of any species of animal, in this country, does not enable an American writer to give much from his own experience nor that of others, nor to state facts of an interesting nature, on this important branch of agriculture. Our people are not yet prepared for undertakings of so delicate and nice a character. Whether this arises from loose, irregular, and unmethodical modes of education, or from a restless and impatient frame of mind, or from the present habit of the American people to look upward, instead of looking forwards and onwards, or from the want of that fixed feeling that goes with, and belongs to, the idea of a settled and permanent residence, is of no consequence; it bears, however, on our general subject in so far as by these various reasons we may account for the American mind not having yet done much, or anything in this, almost the very highest department of the art of agriculture. If an American farmer of the stand-as-you-are order is asked, why attempts are not made to improve the breed of animals in his country, his reply is, that it does not pay. If, however, he should carry out this coarse idea to all the various conditions of civilized life, and he should ask himself, whether it would not be more economical to live in a log-hut, instead of one built of stone or brick, or to be drawn in a cart by a dog or a donkey, instead of a well-bred horse, he would then see in a question so personal, the absurdity and the illiberality of his response. It is not, in truth, because it does not pay, but because he takes no pride in the object; or because he does not like the trouble of the undertaking; or because his mind does not possess the necessary penetration or perseverance, or has not been prepared by previous training, habit of close observation, and clear reasoning, that are essential not only in this pursuit, but in all where success depends on precise and accurate de-

tails, and does not result from accident nor haphazard.

The writer does not mean to assert, that the breed of animals, in this country, has not very much improved within the last twenty years; on the contrary, the improvement has been marked. The old-fashioned, ragged, rawboned, half-starved, angry and withered-looking beast, which seemed as if its early life had been suckled on hail stones, and in its prime fed on weeds, has given way, in many places, to the large, full, and fat Durham, or some of its crosses. Every day may be seen, on some of the roads leading to this city, from the west, handsome specimens of animals raised in Kentucky, Illinois, and even Missouri; some with the appearance of having been crossed with the shorthorns, and others with no indication of any other descent than that their sire was a bull and their dam a cow. But this improvement is not the result of what is properly called and known as *breeding*. It is rather crossing, or the producing of a fine animal of some particular breed, with an inferior animal of no breed known nor acknowledged among agriculturists.

Breeding, if I understand the word rightly, is the preservation of a breed already formed, as is now done in England with the shorthorns; or else to create, as was done by Colling and Bakewell, from the materials that lay about us, a breed, whose beauty and whose utility shall be the admiration of every one. To do this, requires far higher qualifications than the mere crossing. It exacts a perfect knowledge of what are the fine points of an animal. It requires a nice discrimination of those points, existing as they must, at the first, among the ordinary and imperfect animals that he has at hand, and which form his materials, and the elements of his process. The difficulty of discovering these points, is, no doubt, considerable; the difficulty of adapting and adjusting and uniting them, so as to bring about the end in view, is equally great. When I consider this, I cannot help according to such men my highest admiration. The British can refer with praise, and look with pride and triumph on the genius of their country, their poets and philosophers, who have ennobled the name, and made glorious the history, of England.

In New England, and in those parts of our country where her people have gone, may be seen a stock of red cattle, no doubt descended from the English Devons. [?] They are, in many parts, very inferior animals; but that they are capable of being improved, and made equal to any cattle, is made sufficiently clear. At some of the exhibitions in Massachusetts and Connecticut, the size and quality of the animals to be seen there, give clear indications of what might be done by more care and a better judgment; but where capital and industry are superseded by poverty and negligence, or by a spirit of parsimony, more ruinous than either, it is not to be supposed excellence can be reached nor even approached. Ignorance and indolence have no right to assume that they can rival enterprise, activity, and talent; and it is not possible to form a fine breed of animals, nor to preserve one, without the union of these qualities.

An American breeder has, in fact, far better op-

portunities for succeeding in his undertaking, than either of the distinguished Englishmen I have mentioned. He has no difficulty in selecting. He is not confused and perplexed by a variety of different breeds. He will, at each step, mark the success of his proceeding; and even, after one or two crosses, be in doubt as to what should be done next. He has the best of the British breeds within his reach; and has nothing more to do than to keep them at the high standard at which he finds them, and to engage in the patriotic purpose of regenerating the native breed of his country.

The great principles of breeding are now so well known, as to be accessible to every one. It would be inexcusable, even in an inexperienced person, to be ignorant of these; and he, certainly, must know them before he begins his enterprise, or ill-success, at the start, will probably depress and dispirit, and perhaps force him, in despair, to give up all further exertion. It must neither be supposed that he has undertaken a matter of simple and easy attainment. He can, no doubt, bring males and females also together, and have any number of young; but of what use will they be while alive? and of what value, when dead? These are things of far more importance than the mere procreation of the animal; and in those two questions is involved all, or nearly all, that belongs to breeding as an art.

The first great principle is obvious to every student of nature—it is, that “like produces like.” But there is a difficulty in acting on this seemingly simple rule, that includes the chief danger, and most serious obstacle, in this pursuit, and which makes absolutely necessary those high and not very common qualifications—judgment, penetration, observation, and experience. These constitute the genius of the breeder—the intellectual capital with which he is to work—the powers with which he is to create and reproduce something new. There is in this principle of “like producing like,” as much evil to be avoided, as there is good to be attained. Disease, defects, or deformity can be inherited and perpetuated, as easily as strength, symmetry, or beauty. Life itself is but a continued inheritance. Every creature that is born, brings into the world something that belonged to an immediate or a remote ancestor; some peculiarity that allies it with its own particular family, besides that which it has in common with its race. Scrofula, insanity, and gout are, in the human family, as sure and as lasting entails, as lands or houses. Among brutes it is the same. Neither time nor successive generations will eradicate ill temper, faults of form, defects of constitution, nor other natural peculiarities; it can only be done by a proper selection of animals the most free from these infirmities. The system of breeding “in-and-in,” is ruinous, chiefly from this perpetuating defect. To a certain extent, it may be adopted, until every animal produced has become entirely similar in form and constitution, with those from which it has descended, and those with which it is connected. After that, the declining will commence, which will only be arrested by crossing with some other family.

There is no doubt that Bakewell adopted this system, and probably, Colling, too; and there is little doubt that it is the readiest and simplest mode of

forming animals that will be more remarkable for beauty than strength of constitution, though nature herself at last puts a stop to this; it must be admitted a somewhat revolting process, by destroying the power of reproducing. It seems a truth, worthy of being constantly kept before the mind of those engaged in these interesting, but delicate enterprises, that nature will not allow art to go much further than she has gone herself. Man may carry his refinements almost to the point of creation. He may reach that which to him seems perfection. Heights like these are not inaccessible, though difficult; but when we have attained them, the difficulty is, to preserve our position.

A. L. ELWYN.

Philadelphia, Nov. 1848.

THE GAME FOWL.

THIS well-known and highly-esteemed fowl, the qualities of which were so ably defended by a correspondent at p. 161, of the current volume, is found to be a distinct variety, truly remarkable in its eagerness for combat, as well as for the un-

weight about him, and never has a fine fore hand; his thighs fine and thick, and placed well up to the shoulder (for where a cock's legs hang dangling behind him, be assured he never can maintain a long battle); his legs long and thick, and if they correspond with the color of his beak—blue, grey, or yellow—I think it a perfection; his feet should be broad and thin, with very long claws. With regard to his carriage, he should be upright, but not stiffly so; his walk should be stately, with his wings in some measure extended, and not plod along, as I have seen some cocks do, with their wings upon their backs, like geese; his color rather grey, yellow, or rose, with black breast; his spurs rough, long, and looking inward. As to the color he is of, it is immaterial; there are good cocks of all colors; but he should be thin of feathers, short, and very hard, which is another proof of his being healthy. Remember that a cock, with all his stoutness, length, and thickness of leg, rotundity of breast, "fine fore hand," firmness of neck, and extent of wing, ought not to weigh more than 4 lbs. 8 or 10 oz.; if he happen to have an ounce or two more in his composition, he is out of the pale of the pit, and is excluded by all match makers, from "fighting within the articles." A bird, to be a bird, "fit for the white bags, the trimmed wing, the mat, and the silver spur" must be light upon the leg, light fleshed, and large boned, but still no more than 4 lbs. 8 or 10 oz.

CULTIVATION OF THE CRANBERRY.

WHEREVER there is a pond of slight rise and fall, its margin, at a trifling expense, may be fitted up for the culture of this plant, which will continue productive for many years. All that is necessary is, to drive in some stakes two or more feet within the margin of the pond, according to the depth necessary to be filled in, and then place some refuse boards against these, so as to prevent the soil of the cranberry beds from sliding into the water; and lay a parcel of small stones or rubbish in the bottom of these beds, and over them peat or bog earth, to the depth of three inches above, and seven inches below, the surface of the water.

In such a situation, the plants grow readily; and if a few be planted, they will entirely cover the bed, in the course of a year or two, by means of their long runners, which take root at different points. From a very small space, a large quantity of cranberries may be gathered. When properly managed, they prove a remarkably regular crop, scarcely affected by the state of the weather, and are not subject to attack from insects.

A FACT FOR FARMERS.—Farmers may rely on this fact, that most of their luxuriant cultivated crops are produced by the presence, or application of due proportions of *potash*, (as wood ashes, leaf mold, green-sand marl, decomposed felspar, saltpetre, farm-yard dung, &c.,) *phosphoric acid*, (as bones, crushed, burnt, or dissolved, guano, farm-yard dung, oyster-shell lime, shell fish, coprolites, and super phosphate of lime,) and *nitrogen*, (as sulphate and muriate of ammonia, urine, guano, and animal manures generally,) combined with small quantities of lime, salt, magnesia, &c., &c.

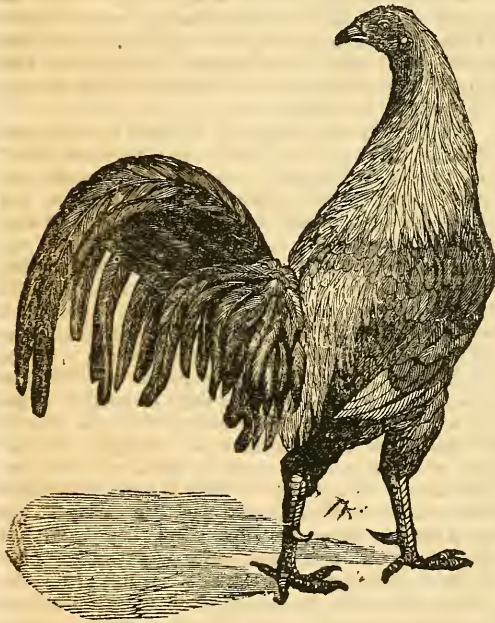


FIG. 43.—THE GAME FOWL.

flinching courage with which it maintains its fight under circumstances almost incredible to those who never have witnessed the exhibitions that formerly disgraced every Christian country on the globe.

The exterior qualifications of a male bird of this variety, as described by a late writer on "Domestic and Ornamental Fowl," is, head thin along, or if not, very taper; a large, full eye; beak crooked and stout; neck thick and long (a cock with a long neck has a great advantage in his battle, particularly if his antagonist is one of those cocks that will fight at no other place but the head); his body short and compact, with a round breast (as a sharp-breasted cock carries a great deal of useless

AGRICULTURAL TOUR SOUTH AND WEST.—NO. 6.

The Ormond Plantation.—This is the name of the Messrs. McCatchon's place. It is the custom of the country, in Louisiana, to give every plantation a name, as the country here is only divided off into parishes, which are equivalent to counties at the north; while the smaller subdivisions are known as points, bends, bayous, and by the names of the plantations. Ormond Plantation is among the oldest sugar estates in Louisiana, having been planted in cane upwards of forty years, by the father of this family, and two or three years before, by his brother-in-law, Mr. Butler, previous to which a little opening had been made by a Frenchman, who raised a little cotton, indigo, rice and corn. Part of the present mansion is the old house, near a hundred years old. Mr. Butler erected a horse mill, (a portion of the building is still in use,) which the late Mr. McCatchon used about twenty years, when he had the present engine and mill put up, and enlarged his sugar house to suit the necessities of the increasing crop.

The place now contains 1,600 arpents, (about one seventh less than the English and American acre,) of land, 850 of which is in cultivation, and from which this family have made 120,000 hogsheads of sugar, and an average of 50 gallons of molasses to each hogshead; that is, 200,000 barrels, or six million of gallons, a sea of treacle sufficient to supply all New England with thanksgiving pumpkin pies, at least one year; and then have enough to furnish gingerbread for all the "muster days" besides. The last crop upon the place was about 550 hogsheads. (In all my statements I shall consider the hogshead 1,000 lbs., that being the understood weight of a commercial hogshead of sugar.) When I was there at Christmas, they had not finished making, and the cane from old land was yielding two hogsheads to the acre, or rather arpents, as the terms are promiscuously applied, but always mean the latter. This good yield they attribute to subsoil plowing, which Mr. James McCatchon told me was worth thousands of dollars a year to them. Another thing, *they never burn trash*, (cane tops and leaves,) but plow all in and let it rot.

To give some idea of the enormous amount of ditching upon a sugar plantation, I will state some items. There are upon this place near 100 miles of leading and cross ditches. The water of these is taken up by three leading canals, some three miles long, and large enough for a considerable boat, that lead the water back through the swamp to a bayou, and thence into Amite River and Lake Maurepas. Then, there is the levee and public road, a mile and a half long, with a ditch on each side, and about 25 miles of plantation roads and two hundred bridges, all to be kept in order. The leading ditches, running from the levee in straight lines back to the swamp, are about three feet deep, and 80 to 100 feet apart, and all have to be cleaned out once or twice a year. The cross ditches are not so deep nor so near together. If you should object to the amount of ground taken up by roads and ditches, you will be told that it is no loss to the cane crop, as it needs the circulation of the air that these spaces give. The roads are ditched on

each side and handsomely graded, and when smooth and dry, form most delightful drives. The ground occupied by roads is not lost for a crop. Upon many of them, as soon after the "rolling season" is over, as they can be smoothed off and ditches cleaned out, a crop of oats is sown, which are mowed for hay, and afterwards a crop of crab grass is harvested upon all the roads, ditch banks, and open spots, which makes very good hay, a large quantity of which is required, although there is really little or no winter to prevent cultivated grasses from growing; yet, they are not growing, because, as it is said, the summer sun kills them. The only winter grass of any consequence in the fore part of the winter months is white clover; and the only pasture land is the levee, road, and "batture" in front. In some places "batture" is very extensive; and when not covered with high water, is very valuable for pasturage. Upon some plantations a fair portion of land is devoted to pasture ground, while upon others they can't afford it; and so the whole stock must be fed with hay or fodder, (corn blades,) and corn. This is why the consumption of corn will appear so enormous in some of the statements that I shall give by and by.

There are upon this place 190 negroes, old and young, about half of which are counted as "field hands." The team is 60 mules and 40 yoke of oxen, though the latter are but little used except to haul wood out of the swamp; and there, too, they get a good portion of their living. Some six or eight family horses are also kept. There are in use, 40 carts, wagons, and drays. Some of the carts are enormous vehicles of the kind, though no more so than is common elsewhere. Some work them with three mules abreast, which is most common; but here they are worked with one in the shafts and two ahead. The wheels are often six feet high, and stronger and heavier made than New-England ox carts.

The wagons are equally strong, with beds made to hold 100 bushels, and to tip out the loads. This brings an undue weight upon the hind wheels, which is very great when full loaded with cane, and very injurious to bridges and roads. The plan of setting the beds upon the railroad plan, so as to sit fair and equal upon fore and hind wheels, and shove back to tilt, would obviate this trouble.

The number of plows of all kinds upon this place, is too great to keep count of. It is common to plow with four to six stout mules, and then follow with the subsoil plow. It is the intention of the Messrs. McCatchon to subsoil all the land planted in cane; and they often run a smaller subsoil plow upon each side of the "rattoons." These are canes growing from the old roots the 2d and 3d, and sometimes the 4th year. This, they think, facilitates drainage, which is one of the all-important things to be attended to on a Louisiana sugar plantation. Deep plowing, they think, keeps the coco grass in check, besides all its other advantages. They also make great use of the pea vine to renovate and improve their soil. I first saw here an instrument called a "sword," to cut pea vines when plowing them under. I will, hereafter, give a drawing of this implement, and the manner of attaching it to the plow.

Everything about this place, not only indicates wealth, but judgment, skill, and taste. The negro cabins are all good, substantial, neat, brisk houses, some thirty in number, all of the same size, colored yellow, to correspond with the mansion, standing in an enclosed lot, with the overseer's house, tool houses, corn cribs, &c. The negroes I found all neatly dressed, and fine, healthy, happy laborers. The "cane cutters," thirty-six in number, all in blue woollen shirts, with their formidable-looking weapons, the cane knives, were quite a "uniform company," that might do the state some service in times of peril.

I did intend to describe the Christmas dinner, but I am taking up quite too much room. I must, however, mention the turkey fatted upon pecan nuts, as the finest I ever ate. The turkey is shut in a small, dark coop, and fed upon cracked nuts ten or twelve days, and nothing else. We also had a quarter of a young bear, from a friend over the river, and green peas, beans, tomatoes, beets, carrots, lettuce, and radishes, all fresh from the garden.

The Messrs. McCatchon have a great variety of young fruit trees, and formerly oranges grew here abundantly. In 1822, a hard freeze killed the trees, and again in 1834. At the latter time the family took "a sleigh ride." Everything was encased in ice. Flowers and oranges, in their crystal coating, glistened in the sun like enchanted scenes in the gardens of fairy land. All was bright and beautiful, but it was the beauty of death. Apples have been tried and always failed. In the back yard of the house are two live oaks, that Mr. McCatchon planted about 40 years ago, that are now two of the finest shade trees I ever saw. About eight or ten feet from the ground, the limbs begin to spread out and extend 40 or 50 feet from the body, forming a very thick, bandsome, round top.

At this place, I first learned the value of bagasse as fuel. Here is a very well-arranged plan of saving and burning it, a full and minute description of which I will give in my articles upon sugar culture. This year, 350 hhds. were made with this, alone, for fuel under the kettles.

This land, which has been so long in cultivation, and still brings good crops, offers strong evidence of the lasting fertility of the Mississippi soil, when treated only in a decent manner. Of course, it is impossible to manure a sugar plantation in the way that some small tracts of grass and grain land at the north are; and it is not required, if the same system was universal that prevails here, of deep plowing and turning under trash and pea vines, and the use of the subsoil plow and thorough ditching, with judicious changes from corn to cane, and good use of all the manure that can be made. Sugar may be continued to be made from the same land, "even unto the third and fourth generation."

I intended to call upon Judge Rost, whose place is next below Messrs. McCatchons', but he was absent. He is one of the few planters who study science to apply it to practical operations of planting sugar cane. He has a draining machine upon his place, driven by steam. I was also unlucky in not meeting either of the Messrs. Kenner, very enterprising and large planters, between Ormond

and Carrolton, the latter of which is connected with this city by a railroad six miles long.

The first acquaintance I made in New Orleans, was Mr. Stephen Franklin, now conducting the agricultural warehouse, established in that city by R. L. Allen, and where every kind of implement used in the cultivation of the soil can be obtained. Mr. F. is an eastern man, but has been so long a resident here, that he is like one "to the manor born." He was formerly a cotton merchant, and is extensively acquainted in the city and country. I commend my friends to him, as a very pleasant and useful acquaintance.

Mr. R. L. Allen, in his "Letters from the South," has given statistical tables, to show the amount of agricultural produce annually shipped to and through New Orleans. But one might just as well undertake to show the magnitude of the ocean, and the fearful raging of the storm at sea, by filling a junk bottle with salt water, and shaking it before the eyes of his pupil, as to try to give an idea of the business upon the levee here, by a string of words and figures. It must be seen, to be believed; and even then, it will require an active mind to comprehend acres of cotton bales standing upon the levee, while miles of drays are constantly taking it off to the cotton presses, where the power of steam and screws are constantly being applied to compress the bales into a lesser bulk, at an almost inconceivable rate per day, while all around are piled up in miniature mountains, which other miles of drays are taking on shipboard, and yet seem unable to reduce in size or quantity, either here or upon the levee; for boats are constantly arriving, so piled up with cotton, that the lower tier of bales on deck are in the water; and as the boat is approaching, it looks like a huge raft of cotton bales, with the chimneys and steam pipe of an engine sticking up out of the centre. And this is but one item of one branch of the produce business of New Orleans.

The whole fields of sugar hogsheads, molasses, pork, beef, flour, lard, oil, rice, meal, apples, and whiskey barrels, and bags of corn, oats, rye, barley, wheat, beans, peas, bran, potatoes, and cotton seed, bundles of hay, together with every other conceivable thing that ever grew out of the earth, are in such wonderful quantities, that the stranger is overwhelmed in wonder to know from whence cometh all this mighty mass of the products of the earth. It is utterly impossible to remove the daily accumulations as fast as they arrive; and at night, and every night, acres of such things as the weather might damage, are covered over with tarpaulin cloths, and guarded by watchmen. The time is rapidly coming, such is the vast increase of production in the fertile soil of the Mississippi Valley, when the whole river front will be insufficient to accommodate the shipping trade of the city, and slips will have to be cut into the land; and great basins, or docks, like those of Liverpool and London, will have to be made, to give room for the giant of commerce to expand his young limbs. Or, perhaps, a great ship canal, from the river to the lake, will not be thought to be a visionary notion, at some future time; or a canal that shall leave the river at Carrolton, and encircle the present city, and enter the river again below, which

would give three times the landing room that there now is, will not be considered half so wild a scheme, as did the idea to some of the ancient inhabitants of New Orleans, of building houses in the swamp where now stands the St. Charles Hotel, and half the business part of the second municipality.

But let us leave speculation of what New Orleans is to be, for who knoweth, and proceed with facts. I have only given these notes just for the sake of trying to give some who have never seen the elephant, an idea of the immensity of the animal.

SOLON ROBINSON.

New Orleans, Dec. 28th, 1848.

RAISING CORN WITHOUT MANURE—INFLUENCE OF AGRICULTURAL JOURNALS.

You inquire in the March number of the *Agriculturist*, what course I adopted to raise 83 bushels of corn to the acre, without manure, while my neighbors grow only 35 bushels, to which I will cheerfully reply.

I have always been of the opinion, that, in agricultural operations, as in those of other arts and sciences, there are certain "little particulars" to be attended to, which have a very important bearing on the result; but these little particulars we are very apt to overlook. When I go into a "smithy," if Vulcan understands his art, he can tell me by the very spark how fares the iron. Look at the chemist—Why is he so very particular about the color that little fluid is taking? He knows that it is the point at which those who are not observing in "small matters," fail. Why does the painter appear so particular in compounding and blending those delicate little patches of olive, blue, green, &c., when his model exhibits no such colors to the eye? The dauber, he knows, will fail in these. In fact, it is the attending to these minute particulars that crowns most of our attempts with success. And why is it that the farmer is the last man on earth to observe those small matters which make success more certain? Why is it that not one in ten takes an agricultural paper, where the minute observations of *thinking* and *acting* men are registered for his benefit? O yes he does attend to small matters—Does he not begin to plant when the moon is in the zodiacal sign of the *goat*, and close, when she is in the sign of the *crab*? I make these remarks, because I feel that I am as much in the "mud," as my brother farmers are in the "mire," and as an excuse for furnishing the "little particulars" of my crop.

My field was a Timothy soil, of about ten years' standing, which I had annually irrigated with water from a spring impregnated with lime. After letting the grass get a fair start in the spring of the year, I put on one of your Yankee plows and "astonished the natives" by turning up a deep furrow slice, leaving the face of the sod directly towards the other side of the earth. I then carefully harrowed the field, still leaving the furrow slices flat. On the 25th to the 27th of April, I planted my corn $3\frac{1}{2}$ by $3\frac{1}{2}$ feet apart, previously taking care to pour boiling water on the seed, for about half a minute; and then, whilst the corn was hot, I stirred in about half a pint of pine tar to a bushel of seed, with which every kernel was completely coated, and afterwards rolled it in

dry plaster of Paris. The corn came up very well, four or five spires to a hill.

For the want of good cultivators, such as you have at the north, I constructed some little harrows, 6 feet long by 18 inches wide, filling them with fine teeth, (tines,) by which I eradicated the young weeds, keeping, at the same time, the old sod below, undisturbed. When the corn had arrived at a height of four feet, I took one of our "shovel plows," a very clumsy implement, as you are already aware, and rigged a wheel under the beam, by which I could regulate the depth, in plowing between the rows, so as to prevent my careless hands from moving the sod. This odd plow worked to my admiration, but much to the amusement of my neighbors, who also wished to know what I was doing with "them 'ere little wheel-barrows in my corn." I stood their gibes better than some generals would a "hasty plate of soup," because my "hasty plate of hommony" was at stake. The result was, I raised 83 bushels of shelled corn to the acre, *without any manure*; and I can prove that the other fields in the neighborhood did not average half that amount.

H. M. BAKER.

Winchester, Va., April 9th, 1849.

HEREFORD AND OTHER CATTLE.

In a late number of the *Mark-Lane Express*, a writer claims a superiority for the Herefords over the shorthorns, on the ground of greater hardness of constitution, which enables them to bear up under severities of climate, seasons of scarcity, epidemics, and exposure to diseases, which few other breeds can withstand. These are important considerations; and if the breed can be found to *prove up* these characteristics, there will be no difficulty in establishing this fame on an enduring basis; as other prominent and valuable qualities, such as capacity for working oxen, kindly feeders, quick maturers, carrying the greatest weights on the most valuable points, are already generally acknowledged.

As a proof of the high estimation in which they are held, the writer cites the sale of Mr. Tomkins, in which 52 head of grown animals and calves, brought an average of \$448 each. One bull, (Phoenix,) sold for over \$2,900. Those sold by Mr. Price, in 1841, consisting of 100 bulls, cows, and calves, averaged \$260 each. A cow and calf sold for \$1,150 at auction. Below we give some of his remarks, which are quite to the point:—

I consider it absolutely requisite that a breeder, to arrive at eminence, should be very particular in his selection of materials to found a herd upon; otherwise he will meet with disappointment at the onset, and may be deterred from prosecuting the pursuit with zeal and interest afterwards. This brings me to what should next receive his special attention—"pedigree;" which is of so much consequence that I cannot see how a breeder can proceed in safety without it. To secure the excellencies I wish to perpetuate in animals, I have always found the surest method of doing it, to breed from those that have possessed them for generations past; and I cannot discover how any one can be influenced to use a male to any extent with well-bred cows, (however perfect in form, coat, and quality,) of mongrel descent. The chances are, that

his offspring *will not* inherit his good qualities, but his and his progenitors' imperfections. There are but few cows that sufficiently combine the many essential qualities of bull breeders. And it is a growing evil to save the male produce of *inferior* cows for bulls, thereby making a bad and worse than useless bull of what would otherwise make a good ox.

The color of Herefords is much diversified. It is well known that there are good Herefords of various colors, such as greys, roans, mottled, and white faces, with and without marks of white on the back, bosom, and abdomen; the rest of the body being dark, or light red. As a well-wisher to the future prosperity of Hereford cattle, I much deplore the fashion, or prejudice, which gives a predominance in favor of a particular color, to the exclusion of all others. To accomplish it, there must be a sacrifice of many good, if not the very best animals, without any *real* advantage accruing from it. A herd uniform in color is pleasing to the eye of a superficial observer; but an individual with any pretensions to a knowledge of the true character of Herefords will discover the characteristics of the breed, notwithstanding the herd contains animals of every color incident to them. Indeed, it is strongly marked in the late Mr. B. Tomkins', and his successor's, (Mr. Price's,) family of Herefords. Although to a great extent I disregard color, I by no means am indifferent about the coat, or covering.

The Herefords, I presume, should have a moderately-thick hide, elastic, and affording to the touch that mellowness, which is only to be acquired by experience. These are indicative of a predisposition to acquire flesh and fat, and it is termed quality. The skin should also be covered with a thick pile of flossy hair, which I like to see waft in the breeze when exposed, (as is frequently the lot of Herefords,) to all the vicissitudes and inclemencies of the weather, looking as if Nature had destined them to endure it, by providing them with a suitable covering. There are many standards of form erected by different judges, but only one can be *true*; and to arrive at the knowledge of that should be every breeder's ambition. Mr. Welles, in his admirable and instructive letters on this subject, which appeared in the Hereford Journal and other periodicals, has given a detailed account of the defective points existing in Herefords, especially as it regards their forequarters, to remedy which, Mr. Price's sort of bulls should be called into active requisition. It augurs well, and is a proof of the correctness of my recommendation that the Hereford prize oxen and heifer, and many of the prize cattle at all the meetings of the Royal English Agricultural Society, were either purely of Mr. Price's sort, or strongly spiced with that blood. I can imagine that an undue attachment to a favorite color, and a love for animals of overgrown dimensions, will operate with some breeders against trying this heretofore successful cross. It is plainly observable that now, *size* is receiving more attention than *form*, at the sacrifice of many points of utility and beauty. We occasionally see a good animal of overgrown dimensions, but more frequently the reverse—"an uncertain bull at an uncertain hop;" neither do I believe there is any advantage in it, as

animals require more food and care when driven beyond their natural standard, and, like water forced above its level, will return to it again when the floodgate is withdrawn. I do not, however, advocate diminutive animals, but those with as much size as is consistent with the laws of nature. If the breeders of Herefords steadily keep in view the improvement of their justly-celebrated cattle, the shorthorns and Devons will never supersede them, and they will be enabled to maintain their invidious position at the two great national agricultural exhibitions.

GEORGE DRAKE.

Stockbridge, Hants, Feb. 27th, 1849.

ENGLISH MODE OF MAKING BUTTER.

THE following is the mode in which the best butter in England is obtained. If you consider it worth a place in your journal, it is at your service.

CHARLES WILLS,

Veterinary Surgeon.

Veterinary Institution,
New York, May, 1849.

The best land for grazing is old pasture, as free from weeds as possible, with abundance of good water. The cows should never be fast driven, heated, nor tormented in any way. They should be housed at night, fed on green food, and the pasture changed when practicable. When going to milk, take saltpetre in the pail, one eighth of an ounce to every eight quarts of milk.

The dairy should be kept very clean and airy, and as near the temperature of 50° F. as possible, with very little light, and completely shaded from the sun, in summer, by trees, or otherwise. Strain the milk into coolers sweet and dry, (never mix warm and cold milk,) keep it from two to four days, then put the whole of the milk and cream into a clean churn, which is not to be used for any other purpose but the one intended. Boiling water is to be added to raise the temperature to 70°. Care should be taken not to continue churning beyond what is absolutely necessary.

After churning, put the butter into two bowls or pans of pickle, made from pure water and fine rock salt, dried in a stove or by the fire, as common salt, obtained from springs or the ocean, gives the butter a bad flavor. It should then be well washed, and the pickle changed frequently, until all the milk is extracted, working with the hand the two parcels alternately, until the grain becomes quite close and firm, when it is to be cured with the finest dried rock salt and sugar, in the proportion of one ounce of refined sugar to a pound of salt, to be well worked into the butter with the hand, until all the pickle is driven out. The butter should be finished the day it is churned, and then packed as closely as possible into a cask, if it is not intended for immediate use, which should be well seasoned, for some days previous, with strong pickle, frequently changed. The cask should be strong and air-tight, and if not filled at one churning, the butter should be covered with pickle until the next; but no cask should contain more than one week's churning. If the butter should, at any time, appear pale in color after the churning has commenced, a little grated carrot juice may be added, which will not injure either the butter or milk.

REVIEW OF THE MARCH NUMBER OF THE AGRICULTURIST.

"Maple Sugar should now be made by all who have trees suitable for it." Doubtful. "No tree should be tapped"—stop there; that part is a fact—and I will add the remainder of the sentence by saying, until it is fully ascertained that it will be profitable to you to make maple sugar, while cane sugar is so very low as it is now. Because I doubt the economy of "all who have trees suitable," undertaking to make sugar at all. If there are several persons on the farm, either old or young, male or female, who would not do much else to any advantage at that season of the year, they might engage in this pleasant kind of labor, for it is labor, just as some families can make a few pounds of silk a year, and have it all clear profit. But hire a man and set him to make maple sugar, and ten chances to one that his wages would not buy more cane sugar than he would make. So all should not make maple sugar.

Fruit Garden and Orchard.—This is a valuable direction and is suited to all places. Not so are all the directions for "Work South," but as that is to the niggers, and they can't read, I will let it pass.

Rotation of Crops.—As the author of this article has neglected to construct a table suited to the customs of the south, I will make one that is right, as I can prove, "What everybody says is true;" hence, what everybody does is right. Of course it follows that the following rotation upon a light-soil hilly cotton farm in certain sections, is right.

ROTATION OF A COTTON FARM, ACCORDING TO CUSTOM.

1st year—Cotton—cleaning, log-rolling, grubbing; burning new land, stumps, rich soil, plow up hill and down—good crop.

2d year—Cotton—stumps, old logs—good crop.

3d year—Cotton—land pretty clean, timber mostly burnt up, roots rotten, some small gullies commenced—crop so-so.

4th year—Cotton—grass, gullies, worms, shallow plowing, and deuce take the land, I haven't made half a crop.

5th year—Cotton—more grass, more gullies, more worms, more cursing, and next to no crop.

6th year—Cotton on the best spots, irreclaimable gullies, and broom sedge on the balance—mighty sorry crop, I shall have corn to buy on credit.

7th year—Dogs take that *old field*, I won't try to make a crop on it.

8th year—The soil gone down the river, and the owner gone to Texas.

9th year—That old abandoned plantation.

10th year—*The last remains*, sold at sheriff's sale.

I say, John, them're cotton planters down south are all getting rich, aint they?

Well, I can't say. If they are, the land is not.

Grasses, Meadows, and Pastures, No. 2.—This is an extract from Allen's American Farm Book; and if it is a fair representation of the whole book, it indicates that the work is a most valuable one. Such an article as this, is just such a one as ought to form reading lessons in every school where farmers' children are educated. How many of the scholars of such schools know the names of the grasses they daily walk over, and upon which the

whole income of the farm, perhaps, depends? In this article, the common and botanical name is given, with a plain description, and a cut showing the appearance of each kind in such a manner that any child might soon learn.

While upon the subject of grass, I wish to inquire if the mosquito grass of the great western prairies has ever been introduced into our domestic cultivation? It strikes me that this would be a very valuable grass for the south, where the complaint is that they cannot grow cultivated grasses. It is a remarkably nutritious grass. The buffalo and wild horses could hardly live, if it were not for this kind of grass. It appears a very hardy as well as a constantly green grass, and I have no doubt but it may be introduced into cultivation.

Hybridization and Cross Fecundation of Plants.

—This is a valuable and interesting article, and I hope the writer will continue and give short practical directions, so that any common person can learn the trade, for everything of this kind, no matter how simple and easy to the master workman, is a trade that must be learned by the apprentices, before they can set up business for themselves. Let them commence on some very common plant at first; Indian corn, for instance, and watch the result. How few there are that even believe in hybridizing much more know how to practice it. They plant cucumbers, squashes, melons, and gourds, in close proximity to each other, year after year, and then wonder at the fact of their "seed running out." It is a common thing in these days, to hear men arguing that "peach pits from good peaches will produce the same good peaches." But these are men that argue without knowledge. They don't take your paper, neither do they believe that agriculture is a science that should be taught in schools.

American Prodigality.—True, every word of it, and yet who believes it? But the fact is, we are a nation of gormandizers. As Mr. Colman has given, in his European tour, some of the bills of fare of European laborers, let me give one of many American farm houses that I wot of.

For Breakfast—Coffee or tea, with cream and sugar, just as much as is desired. Fried bacon, and in the season, eggs always. Cold beef or hash, or perhaps fish, and often fresh meat. Irish or sweet potatoes, good butter, and plenty of it; cheese, ditto; pickles, stewed dried fruit, light and white flour bread, corn bread, or hot cakes, hot biscuit, often pies or cakes.

For Dinner—Coffee, sweet milk or sour, or buttermilk, as may be preferred. Boiled pork, beef, potatoes, turnips, cabbages, beets, &c. White loaf bread and butter, cheese, pickles, stewed fruit, and almost always pie or pastry.

Supper—The cold meats and vegetables from dinner, or perhaps a hot dish of meats or fish, or some broiled chickens, and coffee or tea, of course, with bread as before, to which add a little "tea cake." At each meal, all the condiments, and provocatives of appetite, such as mustard, catchup vinegar, pepper, salt, pickles, &c., are usually on the table.

During harvest time, a lunch in the forenoon and afternoon, of cold meats or fowls, with fresh wheaten loaves or biscuits, cakes or pies, and often

accompanied by hot coffee, with cream and sugar, always as a matter of course. And this is diet for farm laborers in America. Truly it is in strong contrast with that of many of the European laborers. Mr. Colman says we are distinguished for our reckless waste of human food. True again. But how few think of the amount of this waste. I was in Cincinnati once, some 20 years ago, at pork-killing time, and I there saw hogs' feet, heads, back bones, and ribs, hauled to the river and thrown in by the six-horse wagon load. They have since found out that such was not economy. But on many, if not most American farms, the heads, feet, tails, and tripe of beeves, and frequently the livers, are thrown away; and upon many large farms, not more than half of the feet, ears, tails, and livers of hogs are eaten, and the upper part of the heads but rarely, or the cracklins, (scraps, or graves,) of lard, and much of the substance of the bones is thrown away. How common, too, it is in the country to see sheep and calves' head and feet thrown to the hogs. Then the waste of vegetable food and grain, is beyond the belief of a European farmer, who has been brought up in the school of economy. Mr. Colman well says that "the refuse of many a family, in the United States would comfortably support a poor family in Europe." There is an equal extravagance in dress and in household furniture, as in living. But who can say—presto—change? Not I.

Cultivation of Lowland Rice.—This grain seems to be considered exclusively a southern crop. Is it necessarily so? I have seen the upland rice grown as high up as lat. $40\frac{1}{2}^{\circ}$, and am told that lowland rice can be grown as far or farther north. The article under notice gives very full directions about the growth of rice, and is worth remembering by any one desirous of commencing the cultivation of it.

Professor Norton's Remarks on the Establishment of an Agricultural School by the State of New York.—What a pity we had not a few more Professor Nortons in our country. Then the union of the scientific and the practical would be complete. Then the most decisive results would be obtained. When will that blessed time arrive when every state in this Union will have such a school for the education of those who are to devote their lives to the cultivation of the soil?

Rat Catching.—"A Philadelphia subscriber" is answered directly to the point, and he may, now that he has the "secret," set up rat-catching as a business, if he likes. If this recipe will answer the purpose as well as it is recommended, I don't see why these terrible pests of a great portion of the United States could not be exterminated if a simultaneous effort were made. I don't know of but one redeeming quality in these pests; and that is, that they will eat up their small cousins, the mice; provided they are not too well fed otherwise.

Fact in Farming.—"In ordinary land, without manure, high tillage, &c., farming will give but poor returns." Well, now, I say it will give him the greatest return imaginable. For it will give a most complete return of his farm to the most natural state of poverty, that any soil is capable of returning to. A great many people in this country have tried it.

How to Render Cloth Water Proof.—Is that a fact? Can our garments be rendered water proof by so simple a process? [Yes.] And does it not injure the fabric? I shall try it, that is certain. Look to it again, reader.

Sundry Inquiries by a Virginia Farmer.—"Jauffret's manure." Beg your pardon, Mr. Editor, but it does not "remain to be proved" whether some other method of making manure is not the most profitable. In fact, in all the south, I have no doubt but the most economical mode of manuring land, would be with the "cow pea-vine," plowed in green. I have no doubt that covering the land with pine straw, in the south, will always prove beneficial. Independent of its quality as a manure, the mere shading of the land is highly beneficial. As to grafting the peach upon the stock of the mountain plum, what is the advantage, in a country where peaches grow spontaneously as they do in all the south? Make it a rule to have young trees all the time coming on, and then let the old ones die, if they like. What's the odds? If land and trees were both dear and scarce, it would be a different thing altogether.

Facts in Farming, No. 3.—These are just the kind of articles that give value to an agricultural paper, and are just such as every farmer ought to give his attention to and communicate. Probably it will not pay to feed cows Indian corn for milk, in Orange county, N. Y., while on the Wabash or Miami, it would be thought the cheapest kind of feed. It is, or used to be, fed there as though it was not only cheap, but of no value. I wish some of the fodder-pulling farmers, would try the experiment carefully, whether pulling off leaves injures the product of the corn. [It must. Eds.] and also whether it would not be good economy for them to sow corn as detailed by this correspondent, instead of pulling fodder for winter food.

Potato Starch.—How plain is this direction for making this article of necessity in almost every American family, and yet scores will read it, and still run to the store for a little starch. This is another item where we practice so little economy. In all the southern states, the arrowroot itself can be grown as easy as potatoes, but its cultivation seems but little known.

Fattening Poultury.—I am well pleased to find that so sensible a person as E. S. agrees with me upon this subject. A fowl that has grown sufficiently fat for eating, upon a plan where they have free access to the woods and fields, is as much superior to a coop-fattened one, as a beautiful, neat, sweet, wholesome farmer's daughter is superior to one of those hot-bed excrescences of fashionable society. When shall I have the pleasure of *that dinner* with E. S.?

The Proper Soil for Roses.—Add to all this a liberal supply of soap suds, then "go ahead," for you are "all right."

Defence of Romps.—I have always been surprised to see the folly of mothers complaining that their daughters were "such romps," and trying to check them. It always does my heart good to see the happy, robust countenance of a romp. And fifty years ago, it used to do a certain then-young man good to take a hand at the game with them. I hope my "daughter's daughter will rise up and go and see

her daughter's daughter" romping, one of these days, and that I shall be there to see. And finally, reader, if I can no longer enjoy any of the arts of romping, I hope I may live yet a while to advocate the cause of all the dear girls who feel a disposition to let out their youthful elasticity in such innocent and healthful a manner as this much condemned, because "ungenteel," amusement.

REVIEWER.

SUPERIORITY OF BROWN BREAD OVER WHITE.

In the month of June, 1847, when breadstuffs were nearly at their maximum, in Great Britain, and bread sold at from 11d. to 1s. 1d. the 4-lb. loaf, an article was published in England "On the Nutritive Qualities of Bread in Common Use," in order to show the fallacy of common opinion, by embodying the leading points of a paper written by that able, analytical chemist, Professor J. Johnston, then of Edinburgh. From the period that the older organic chemists announced that all the constituent elements of the human and animal frames were built up, and supported by, the assimilation of certain specific matters contained in the food with which each was furnished, it became a primary object with them to subject every article of such food to severe analysis. *Bone, muscle, and fat* constitute the three chief materials of animal structure, the blood being the vitalized fluid which contains, and conveys through appropriate channels, those elements that are destined for their ultimate supply.

Bread ranks among the chief of the nutrimental substances destined for the support of the human frame; and therefore, particularly at the time of the late or anticipated scarcity, it became an imperative duty not merely to secure to the public a genuine and pure article, but to point out the means by which pure wheaten meal could be most economically prepared, and so manipulated as more effectually to nourish the body and promote its general health. The professor announced that the best and most nutritious bread could not be made from the "whites," or household flour; but only from the "whole meal," consisting of the entire wheat grain ground up in one way, and used as it comes from the millstones, unsifted, and therefore containing all the bran. He also showed by calculation that 1,000 pounds of such *whole or entire* meal contains of the elements of

Muscular matter,	-	-	-	156 lbs.
Fat,	-	-	-	28 "
Bone material,	-	-	-	170 "
				354

Whereas, in fine flour, are found only, of

Muscular matter,	-	-	-	130 lbs.
Fat,	-	-	-	20 "
Bone material,	-	-	-	60 "

210

If, then, the real elements of food, convertible by assimilation into muscular flesh, fat, and bone, superabound to the extent of 144 lbs. in whole meal, the preference ought to be given to the meal, and, as an inevitable consequence, to pure

brown bread, when compared with the white, tasteless, artificial compound, made by the white and "fancy" bread bakers. Some allowance must, however, be made for constitutional variations; for it is proved that, in many instances, bread which contains all the coarse bran becomes flatulent and too laxative, in consequence, perhaps, of irritation produced by the mechanical action of unreduced scaly particles. In such cases, the best "one-way," or grist flour, obtained from the mill, with the separation of the rough bran only, should be substituted.

ALABAMA WHEAT—EARLY CORN, ETC.

WILL your northern readers believe me, when I tell them, as I now do, that I saw to-day, March 27th, a field of wheat all fully headed out and in bloom? To all appearances now, it will be ripe enough to cut in three weeks, if the weather is warm. This early maturity will insure it against all danger from rust, and that is about the only danger of failing in a crop in this part of the country. This piece contains three acres, and is upon the farm of Dr. N. B. Cloud, whose name is familiar to many of your readers, as the man who actually makes manure in the south, and uses it, too, and by which he has raised the most cotton to the acre that ever was grown.

As soon as this wheat is harvested, Dr. Cloud will furnish an account of it, and how he started with 300 grains of seed, sent him in a letter. It bids fair now to make 40 bushels to the acre. Dr. C.'s post-office address is, Lockland, Macon Co., Ala. I advise my southern friends to procure seed of him. To any subscriber of an agricultural paper, I will engage that he will most cheerfully send a little in a letter by mail, if they will write to him, and not forget to pay the postage.

For several days past, I have seen many plows at work among corn, which was up so as to show the rows half a mile or more, and which the hands were "thinning to a stand."

Cotton.—I have seen many hundred acres of cotton up, but as the thermometer this morning, after sunrise, was at 34°F., I presume that it is thinned to death.

This part of Alabama is fast coming to the time when all flour eaten here will be made on the many streams that drain the soil, on which will grow the wheat. Low prices for cotton may yet prove as great a blessing to the state as high prices have been a curse.

SOLON.

Tuskegee, Ala., March 27, 1849.

SAVE THE URINE.—The urine from cattle is worth as much as the solid droppings. Any farmer can easily secure the whole, both in summer and winter, by having a bed of turf or vegetable matter deep enough to catch and retain the liquid. The watery portion soon evaporates, while the solid matter, amounting to about 12 per cent. is incorporated with the turf and held till needed for use.

RICE THE TOUGHEST PLANT IN THE WORLD.—Rice, according to the observation of a southern planter, can stand more grass, more water, more shade, more rough work, and come nearer dying, and then come to life again, than any plant in cultivation. Drought is its worst enemy.

USE OF INFERIOR FARM IMPLEMENTS.

We lately saw one of the old-fashioned plows, at the establishment of one of our largest plow manufacturers. On inquiry, we found that it was a pattern on which the proprietors commenced their business, some 15 or 20 years ago; and, although a very good plow, for that period, it is superseded among all intelligent farmers, by other and more recently-constructed patterns, which will do the same work, and with at least a quarter less labor.

We found that the single reason of its now being employed, in preference to others, with most of those using it, is, that it has a point, or share, of cast iron, costing some 15 cents each, which admits of being worn out at both ends, instead of one end only, as those now constructed. The saving of 7½ cents, in this share, determines its use; and this is saved at an additional expenditure of team power, costing not less than 25 to 50 cents per day, which by the time the share is worn out, would amount to from \$5 to \$50, according to the soil. Such wise-aces are never guilty of taking nor reading agricultural papers, to teach them a better system of economy.

ORNAMENTAL FOUNTAINS.

In viewing a spouting fountain, we are only surprised by the elevation to which the water is thrown; but perpendicular columns of water have but little pretence to beauty, particularly when a jet rises from a naked tube in the middle of a basin or canal, and the water falling on its smooth surface, appears unnatural without being artificially grand. Some are so constructed, that their ajutages throw up the water in the form of sheaves, fans, showers, to support balls, &c. Others to throw it out horizontally, or in curved lines, according to the taste of the designer; but the most usual form is a simple opening to throw the spout, or jet, upright. The grandest jet of any is a perpendicular column issuing from a rocky base, on which the water falling produces a double effect both of sound and visual display. Drooping fountains, or such as bubbling from their source trickle over the edge of rocks, shells, or vases, combining the cascade with the fountain, are capable of much greater beauty.

Whatever be the direction of the jet, the discharge of water is always the same, provided that the altitude of the reservoir be the same. This is a necessary consequence of the equal pressure of fluids in all directions. Water, spouting from a small ajutage, has sufficient velocity to carry it to the same height as the water in the reservoir; but it never attains entirely this height, being prevent-

ed by various concurring causes. 1st. Friction in the tubes. 2d. Friction against the circumference of the aperture. 3d. The resistance of the air, its weight obstructing the rising column.

Mr. Loudon justly observes, that it is not easy to lay down data on this head; if the bore of the ajutage be too small, the rising stream will want sufficient weight and power to divide the air, and so being dashed against it, will fall down in vapor, or mist. If too large, it will not rise at all. The length of pipe between the reservoir and jet will also impede its rising in a slight degree, by the friction of the water on the pipe. This is estimated at one foot for every hundred yards from the reservoir. The proportion which this author gives to the ajutages, relatively to the conducting pipes, is one fourth; and thus for a jet of four lines, a conducting pipe of an inch and a half diameter; for a jet of six or seven lines, a conducting pipe of two inches, and so on. From these data, the height of the fountain, and the diameter of the conducting pipe being given, the height to which a jet can be forced can be estimated with tolerable accuracy.

The following are a few of the most powerful fountains in Europe, with the perpendicular height to which the water is thrown:—

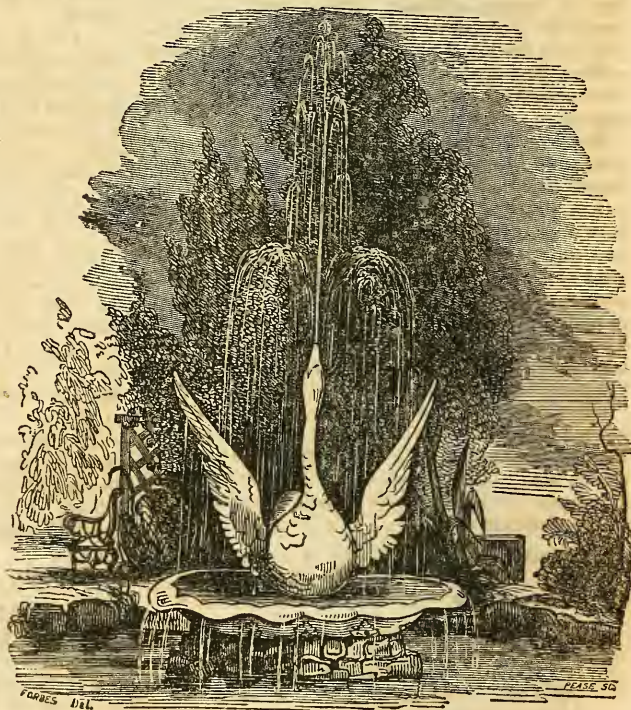


FIG. 44.

	Feet
The Emperor fountain, at the seat of the Duke of Devonshire, Chatsworth, -	267
Wilhelmöhe fountain, in Hesse Cassel, -	190
Fountain at St. Cloud, France, -	160
Peterhoff fountain, Russia, -	120
Fountain at Versailles, France, -	90

THE AMERICAN GROUNDNUT, A SUBSTITUTE FOR THE POTATO.

In consequence of the serious results that have been occasioned by the potato disease, attention has been directed from time to time, in various countries, to other plants, in the hope that some or one of them might be found capable of supplying,

covered, taking everything into consideration that is capable of superseding that valuable esculent.

The plant, however, to which attention has been drawn for some time, in France, and which appears to be in many respects preferable to any yet tried, is the American groundnut (*Apios tuberosa*). M. Trécul, a Frenchman, who has recently made a tour through North America for the express purpose of obtaining plants with nutritious roots, says:—"I found at Neosho a plant of which I have great hopes. I met with it before in Missouri. Here it is more abundant. It is *Apios tuberosa*. Although the tubers are still growing, I have found several half as large as a man's fist; they are developed in the summer and autumn, and give in the following year fruit-bearing stems. These tubers, called by the Osages *taux*, are floury, like the potato, and a little sweeter; they do not ripen before the end of autumn."

In an account of this plant, recently published by M. Richard, it is described as having a curious underground vegetation; its roots are the size of a quill pen, cylindrical, running horizontally under the soil, but close to its surface, and are often two metres long, (six feet and a half,) and sometimes much longer than that. Here and there the roots swell insensibly; the swellings gradually become spindle-shaped, grow larger, become filled with starch, and form true tubers. The swellings are sometimes close together; so as to form a sort of chaplet. Sometimes they are very unequal and at other times tolerably uniform in size.

Their surface is at first pretty smooth and even, of a very pale brown color, but by degrees, they send out fibres which are often placed in longitudinal series parallel to the axis of the root. These fibres drop off and leave on the surface of the tubers little unequal projecting scars. Independently of these, there are also on the surface of the tubers small, white, hemispherical tumors, about the size of a pin's head, and which are so many eyes, or buds, capable of growing into aerial stems. When the tubers are ripe, they are irregularly ovoid; the largest seldom exceed in size a hen's egg. Part of their surface is even, the

other is rough and irregularly tubercled. These inequalities are owing either to the development of aerial stems or of radical fibres. The epidermis

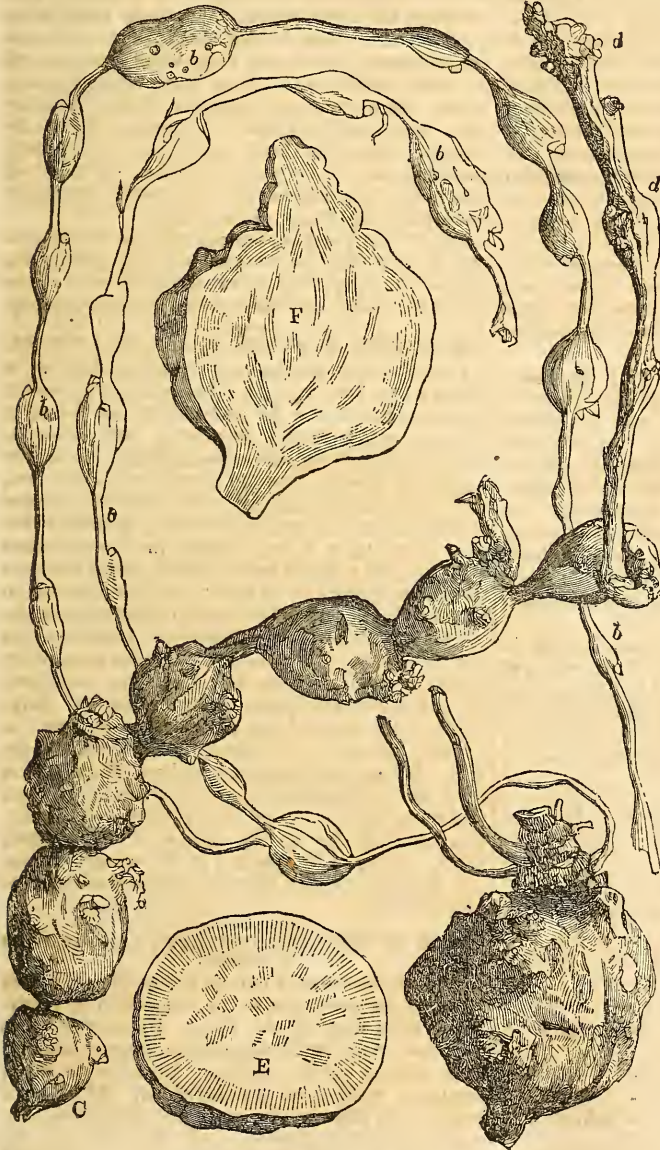


FIG. 45. AMERICAN GROUNDNUT.

Explanation.—Tubers of *Apios tuberosa*. A, an old tuber, with a double string of young ones, b, b; C, a string of tubers 2 years old; d, d, the upper and woody part of the string from which the stems arise; E, a cross section of an old tuber; F, a longitudinal section of the same.

to a certain extent, at least, the place hitherto filled by the potato. As yet, nothing has been dis-

covering the tubercles is brownish grey, and slightly cracked in a longitudinal direction. In the inside, they are of a pure white color, and when cut or broken, a white milky sap oozes out, especially from a quantity of very small vascular bundles disposed in a circle at the circumference, and which principally consist of irregularly-dotted vessels. The sap is quickly condensed, and becomes thick, glutinous, and sticky, like glue. The mass of the tuber is fleshy, firm, and resisting, and is composed of irregular cellular tissue, full of grains of starch. The latter are of unequal size; the largest are of the same shape and size as the grains of potato starch. The tubers, when raw, are sweet, and not at all bitter nor sharp. They resemble both in substance and in taste raw chestnuts. When steamed and cut, the tubers of the apios are very like those of the potato; they are floury, particularly when completely ripe and not too old, for the tubers may be kept in the earth for several years without being destroyed. Their taste is sweet and agreeable, very like that of the potato, but rather sweeter, and with a little of the savor of artichokes, and is by no means unpleasant.

Mr. Richard has cultivated several of the plants himself, and amongst them was one that grew for four years in a very poor soil; it was left almost entirely to itself, without watering. On pulling it up, he obtained more than 100 tubers of different sizes, being equivalent to more than a decalitre (ten quarts). He thinks it quite certain that the same plant placed in a good light soil, well worked and properly manured, which its long roots could penetrate with ease, would give, in one year, more tubers, and those better filled and of a larger size.

All that can be said of these roots is, that in their present state, which is very little removed from that in which they are placed by nature, they appear to approach the most to the potato, both in chemical composition and in taste. The following analyses have been furnished by M. Payen:—

	Potato.	Apios tuberosa.
Dry substances,	- 25.6	- 42.4
Water, - -	- 74.4	- 57.6
	100.0	100.0
Azotised matter, -	1.7	4.5
Fatty matter, -	0.1	0.8
Starch, dextrine, sugar, and similar substances, pectic acid, pectine, &c. -	21.2	33.55
Cellulose, (including the skin,) -	1.5	1.3
Mineral substances, -	1.1	2.25
Water, - -	74.4	57.6
	100.0	100.00

Thus we see that, compared with potatoes, the tubers of the apios contain more than double the quantity of azotised matter, eight times as much fatty substance, and altogether more than one and a half times as much solid matter (organic and vegetable). The quantity of saccharine and other soluble matters is at least three times greater in the tubers of the apios, than in those of the potato.

The cultivation of this plant may be attended with some difficulty in consequence of its manner of growth. Its long, slender, twining stems, and its equally long running roots, are unfavorable to its being cultivated on a larger scale. The plan I would propose, if its cultivation on a large scale should be attempted, would be, to plant the apios in lines alternating with rows of early maize. The stems of the latter plants, which grow much more quickly than those of the apios, would serve as props, around which the long, weak branches of the latter would twine. Both, if cut before autumn, would make very good food for cattle. Another plan, which has been tried with success by M. de Thury, would be that pursued in many hop grounds, namely, to plant in tufts, for each of which a certain number of small poles are placed to keep up the straggling branches.

One of the great advantages afforded by the culture of this plant is, the possibility of getting the tubers without pulling up the principal stock, from which the roots, with their tubers, annually spring.

THE EFFECTS OF BRIGHT COLORS ON ANIMALS.

It is probably known to every person familiar to country life, but not to all others who may possibly have occasion to use the information, that the sight of a red garment will provoke a bull to an attack, and sometimes almost to madness. Frequent injury has resulted from an ignorance of this fact, and occasionally death has been the result. Other bright colors, strongly contrasted, produces the same effect upon a bull, though in a less intense degree. But a bright red or scarlet seems to excite all the ire of the bovine race; and you have but to shake a flaming jacket at them to provoke the highest state of rage. The same effect is produced on a cock turkey; and a flock of them can as speedily be put to gobbling a declaration of war, as a bevy of pot-house politicians on a fourth of July. Some of the *martial nerves*, we suppose, must be strongly affected by the glare of these exciting colors. It has been suggested, and we think with a good deal of reason, that, if the scarlet facings, sashes, as well as the radiant epaulets and plumes, together with the martial strains of the trumpet, drum, and fife, were wanting in the military parade, we should have little of war in these modern days of civilization.

VALUE OF THE AGRICULTURIST TO A SOUTHERN FARMER.

WE are accustomed here to follow the old beaten track of our ancestors, in the disposition of everything pertaining to the farm. Experience, it is true, has driven us to make some improvement in some things, but how trifling this must be when compared with what we might do. All of your suggestions about the arrangement of buildings for convenience and comfort—your directions for arranging for keeping stock, for improving lands, and the disposal of manure, are invaluable to us. There are but very few, if any, of our farmers, who ever saw any guano; nor do they know its value. I shall for the future endeavor to get my friends into the way of reading upon these subjects, and procure a goodly list of subscribers for you.

DANIEL S. ROBERTSON.

Cassita, Ala., April 13th, 1849.

HINTS ON THE MANAGEMENT OF HORSES.—
No. 2.

FEEDING is one of the most important considerations connected with the management of horses. A good deal of judgment and experience is essential to adapting the food to all the different objects required.

When the colt is by the side of a healthy, well-fed dam, no other provision is necessary for it, beyond what it derives from her well-filled udder. But care is essential to prevent over-exercise or heat in her, or disease of any kind; for the injurious effects will inevitably be disastrously felt by the offspring. As the colt approaches the period for weaning, it may be taught to nibble at oats, bran, and meal, which may be readily done by having either placed before the mare, in a low trough, so as to attract the notice of the foal. The young of all animals are imitative creatures, and will soon learn to eat any food suited to them. By gradually adapting them to artificial food, they will be the better fitted for weaning, when the proper time arrives. Whenever this takes place, the colt should be removed entirely beyond the reach of sight or hearing of the dam. Both worry and fret much less from their remote separation, and sooner become entirely reconciled to it. The dam should have less and coarser food, and the foal richer and more nutritious, till the former has ceased to secrete her milk, and the latter has become fully accustomed to his new regimen. The mare may be milked occasionally till her bag becomes entirely dry.

The food of the colt requires to be abundant and nutritive, without being rich and profuse. It will thus attain its full size, strength, and development much earlier than if scantily supplied. Oats and bran are excellent grain for it, perhaps the best. Roots should occasionally be fed to it through the winter, and whenever deprived of its green forage; and roots may even be fed generously without injury. But sound hay, especially of the tender, succulent kinds, as the rowen, or aftermath, and the early-cut grasses, and clover for winter, and good pasturage in summer, should be the main reliance for the food of the growing animal.

Oats may be fed with liberality, where the price will admit, and this is oftener the case than the farmer is aware, if he will, instead of being at the expense of threshing, cleaning, &c., run the unthreshed oats through a cutting box, and feed the chop as it is, after wetting, and allowing it to stand for a day or two. For this purpose, and indeed for every other, the oats should be cut before they are fully ripened, and when they have become so far matured that they will fill out after cutting. In this condition, the straw is not only much more highly relished by the colt, but both straw and grain are absolutely more nutritive.

Box stalls are essential for the young, in our northern climate, during the winter months. They should be allowed a run in the fields or open yards every day, and room enough to frisk about at their pleasure, when housed. The expense of providing comfortable shelter is comparatively trifling, and the economy of food and growth thereby secured, is considerable. A colt will not only consume much less food when well sheltered, but he will grow faster, and be much less subject to dis-

ease. Good summer pasturage is all that is necessary for the colt, when that is abundant. This treatment ought to be pursued till the animal takes his place in the team.

The breaking of a colt may commence at the earliest moment that is convenient. Valuable time should not be consumed with him to any extent, before he is taken in hand to break. But he may be halter broken the first winter, and be subjected to the bit at any time. If kindly treated, he will thus be kept tractable, and whenever required, will be easily subjected to the restraints of the saddle or harness. Indeed, if allowed to run with the team, or be near it, he may easily be taught to participate with his associates, in whose labors he seems to acquire a deep sympathy. If kindly treated up to this time, his breaking and after management will be easily effected.

The feed of the working horse may vary greatly; yet, in each instance, be well suited to the object. Nothing is better for securing health and labor than good, well-cured hay, oats, and carrots; though many other kinds of food may, under certain circumstances, be advantageously substituted for them. Some feed no hay, and as a substitute, give the blades or tops of corn, cut straw, mixed with barley meal, Indian corn, either on the cob, shelled, crushed, or ground, rye, buckwheat, bran, peas, or the English bean or vetch. The potato may be substituted for the carrot for horse food, from which it does not differ materially in nutritive equivalents; but the carrot has a much better effect on the health, and especially the wind of the horse, than any other root. In the absence of both the preceding, parsnips, turnips, or beets may be fed, but they should be relied on only as a change, and not as a permanent food. Each of these act as slight aperients and diuretics, causing a modified looseness of the bowels; and this effect is one essential cause of their decided utility. Carrots may constitute a part of the food of the horse to the extent of 8 to 30 quarts daily, and with decided advantage, when they are the produce of the farm where used; and they should form a small part of the daily rations of every working horse, not otherwise supplied with green food, at the enhanced price which may have to be paid for them. They have a wonderful effect in sustaining health, and restoring it in many instances when partially impaired; and many, who have studied their effects closely, will feed them in moderate quantities, at any cost, rather than be without them. But the stomach of the horse is small as compared with the ox, camel, sheep, llama, and other ruminating animals, and it cannot be loaded with a mass of light, loose food, without decided disadvantage. Flatulent, washy, and bulky, unsubstantial food is the most expensive that can be given to the working horse. He needs, for the most part, a condensed, easily-digested, muscle-bracing, wind-sustaining, nutritive food; and this is more cheaply secured in well-ripened oats than in any other food procurable in this country.

There are several advantages in the use of oats, and to appreciate them fully, we must consider some of the purposes to be fulfilled by food, which is designed to sustain the vital machine, to bring it to maturity, develop and perfect its various parts,

and give to each their greatest perfection and vigor. But in accomplishing these objects, there are two widely-different things to be provided for, both of which are generally secured by the ordinary articles fed to animals. Many substances, however, are much better suited to one object than to the other; and it is important to the skillful feeder to know precisely what is best for each. One purpose of food is, to supply materials for respiration. These are carbon and hydrogen; and they are found in great abundance in sugar, starch, gum, pure fat, and oils of various kinds. The other is to furnish materials for the muscles, tendons, and bones. It may be asked, why do these need renewing when once matured? We can only answer, this is the law by which they are governed. We cannot go beyond this; we can only see that this *is the law*—that nature works in this way, and this way only; and it is our duty simply to conform to her requirements. Every movement of the body, or any individual limb, even the motion of an eyelid, causes some waste of muscular fibre. Every pulsation of the blood is attended with the loss of some matter previously constituting a part of the system, and the addition of other derived from the food to supply its place. Incessant change is stamped upon every animal and vegetable, from the moment of its beginning to the close of its existence; and to sustain these changes, is the object of food for the animal. To supply the matter for the muscles, &c., nitrogenized food is necessary; and for bones, the phosphate of lime is required. These are not found in the kinds of food last named above, and we must look for them elsewhere. The phosphates are generally associated with nitrogenized food to the extent required by animals; and the same is true with regard to the elements required for respiration. We have then to look for the nitrogen combined in the requisite proportion in the food, and we shall have provided for all that is needful for keeping the animal system in full repair.

But there is still another important consideration connected with food; it must be contained within the proper compass; and this compass must be adapted to the capacity of the animal's stomach, which, in the carnivorous and ruminating tribes, embraces the extremes of size and capacity. The aliment contained in the flesh, consumed by the lion or tiger, at a single meal, could not be compressed within 10 times the bulk of grain, 20 of hay, or 50 of roots. Hence, the necessity of augmented capacity of stomach, to supply quantity of nutriment equal to the demand of the system, when the coarser kinds of food are used; and hence the inappropriateness of supplying meat or even flour, equally with roots or straw, only, to the horse. The two former will afford him nourishment, as they would man or the carnivora; but they are too condensed, and do not sufficiently distend the stomach, and if used extensively, would soon produce disease; while the latter are too bulky for the horse, and if confined to them, he could not receive sufficient nourishment to do his work.

To come back, then, to the point from which we have digressed, for the purpose of giving some

general principles of universal application; we are thus made acquainted with the reasons of the peculiar adaptation of oats as food for the horse. They are highly nitrogenized—they contain an abundance of phosphate of lime—they have a due proportion of starch to supply respiration, and all these elements are mingled in due proportion. The bulky husk which envelopes the farina of the grain, though but slightly nutritious, is still directly, and in a high degree beneficial, in consequence of diffusing the nutriment through a greater mass, which thereby promotes digestion and secures the health of the animal.

Oats ought not to be given to the horse when newly harvested. It is recommended, in England, not to feed oats till a year old, as they are less digestible and nutritive—they are slightly purgative—produce a ready and copious perspiration; and it is alleged by many, that they produce *grease*. The oats of the United States, like wheat and other grain, owing to our drier climate and hotter sun, are more intensely ripened, and will bear to use within a much less time, say four to six months. Grinding would not much improve the oat for horse feed, as they are effectually crushed between their long, ponderous jaws; and the operation produces an abundant flow from the salivary glands, which is an important aid to the digestive powers. Cooking, either boiling or baking the oatmeal, would be attended with decided advantage, as either of these operations tend to prepare the food for easy and rapid assimilation by the digestive organs.

TO CULTIVATE MARSH PLANTS.

To cultivate marsh plants in perfection, nothing more is necessary than to supply them with a moderate quantity of their native soil, placed immediately around the roots; and afterwards keep the ground about them constantly moist.

To effect the latter object, place the root sufficiently deep in the earth, that when the neck, or crown, is covered, there may be a hollow three or four inches deep, and extending a foot or more on every side. Then water copiously, and, in addition, have a keg or large jar sunk near the roots, and keep it full, or nearly so, with rain or river water. Saturate a strip of coarse, woollen cloth; put one end at the bottom of the keg, with a stone upon it, to keep it in its place, and draw the other over the edge to the root; this will act on the same principle as the siphon, and furnish a sufficient, perpetual supply of moisture for a vigorous growth.

Plants that grow in the water require to be constantly submerged, for which an artificial pond, or quagmire, is necessary. M.

KINDS OF FRUIT FOR CULTIVATION.—We advise our friends to try their orchards with a variety of fruit trees, whether of apple, pear, or peaches, and after determining which are best adapted to the soil, let those of the best quality that are found suitable to the land, occupy it almost to the exclusion of the others. There is a wide difference in the production of different trees, and it is in the nice adaptation of each to its most suitable locality, that the profit of fruit growing will be found to consist.

PORK vs. BACON—QUERIES—MANUFACTURED ARTICLES FOR THE SOUTH.

I BEG of some one of your correspondents, who are in the habit of being particular, to give through your journal, some information relative to pork and bacon. Suppose a hog weighing 300 lbs. be cut up, as is usual, with the spare rib and back bone taken out, and the feet taken for souse, what amount of bacon ought I to have? If pork, when killed and dressed, be worth cash $3\frac{1}{2}$ cents per pound, what ought the bacon made from it to sell at, so as to pay expenses of smoking, or, calculating the spare rib and back bone to be worth, say 2 cents per pound? In putting up a surplus of pork, is it advisable to make the sides into lard, if it be worth some time of the year as much as hams? What amount of lard ought 100 lbs. of good corn-fed pork, (sides,) make?

While I am asking questions, I beg to broach another matter, though this greasy subject is quite as important. Your readers, north, may know, that we of the south, use a large quantity of flax thread in making up of negro clothing, cotton sacks, &c. This thread is sometimes bleached until the strength is nearly exhausted, and it is very uneven. It costs from \$1 to \$1.25 per pound. I ask, cannot a stronger cotton thread be made, giving us more yards of thread, and at the same cost, or less? (a) I tried to estimate the number of threads in a pound, by counting the skeins; but they varied so much that I found it quite troublesome. I found 148 threads in the ninth of a pound, which measured 61 inches, and in length by the pound, 2,257 yards. This cost here \$1. Each spool of thread is warranted to carry 200 yards. Thus, a dozen spools will certainly make the number of yards in a pound of flax thread, and the spools sell at $62\frac{1}{2}$ cents per dozen. If the thread were put up in banks, I judge that 2,200 yards could not cost here, profits and all, 50 cents per pound. We require a longer and stouter thread than comes out on spools, say Coates' thread, No. 2, (on one end,) is not large enough. We use, No. 2 needles, J. Hill & Son's "sharps." I think that the right kind of cotton thread would sell readily, and throw out of market the flax thread. We used to make sewing thread; but that universal Yankee nation has made our wives and servants forget all work, and they ought to give us the kind of article we need.

We want, also, an article of socks, (half hose,) to wear in the country and with boots, either colored or unbleached. The thread should be spun almost as large as for Lowells No. 2. The object is, to have a stout article, as the socks so made and sent off to us, would not last that long, if they were not protected from the air. I really cannot see the reason why a strong thick pair of socks cannot be made and sent here for 15 to 20 cents a pair, as well as a yard of Lowell at 10 cents. There is some little sewing, but the less quantity of spinning, weaving, and the less quantity of cotton, with its freight, &c., would go much to counterbalance.

And lastly, the next time you go to Shoedom, do beg the proprietors to send a pair of shoes out of every box, that will last a man to get home, if he rides. I have had a pair of shoes for my farm

work last me a year. They cost me \$2.50; but usually coarse shoes will not last much over one month, and I have known them wear out clean in two weeks. Not being able to get shoes of the above kind, I had a pair made, cash price \$4 only, and the kind we call brogans. A QUERIST.

(a) Thread can be made from cotton that will be stronger than rotten flax, but not one fourth so strong as sound flax.

FILTRATION UPWARDS.

IN most countries of the globe, as well as at sea, it frequently happens that people have to resort to the use of water obtained from the clouds, in cisterns or otherwise, or from muddy streams or ponds, which is often turbid, ropy, or fetid, and consequently unfit for cooking, washing, or to drink, before it is filtered, or strained.

An apparatus, that appears to possess the advantages of being easily and cheaply cleaned, when foul, and which will filter water, in moderate quantities, in a perfect manner, may be formed by the arrangement represented in the diagram below.

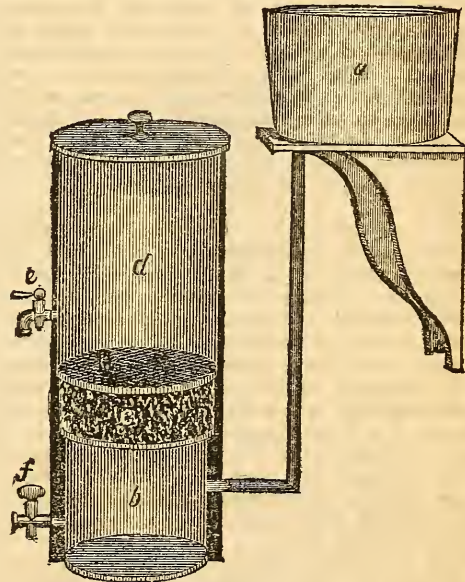


FIG. 46. ASCENSIVE FILTER.

Explanation.—The letter *a*, denotes the tub or box for receiving the water to be filtered, and communicates with the lower part of the apparatus by means of a gutta-percha or tin tube; *b*, *d*, an upright cylinder, divided at *c*, by a stratum of charcoal and clean sand, six inches thick, enclosed between two linen or cotton strainers stretched over hoops; *e*, a cock for drawing off the filtrated water for use; *f*, another cock for discharging the sediment from the lower chamber when foul. By pouring water into the tub *a*, it will descend through the tube into the lower part of the cylinder *b*, and then percolate upwards through the charcoal and strainers at *c*, into the upper chamber *d*, in which state it will be perfectly limpid and pure.

It is obvious that the mud or other matter suspended in the water, before it is purified, will not choke up the strainers, as it commonly does by the downward process of filtration, but settle to the bottom of the cylinder by means of its own gravity, whence it can be drawn off at pleasure at the discharge cock *f*. As often as the strainers and charcoal become infected by animal matter or other filth, they can readily be taken out through the top of the cylinder, cleansed or renewed, and restored again in their place. The water may be kept cool, in summer, by filling the upper chamber *d*, with ice.

The quantity of water that can be filtered daily, by an apparatus of this kind, may vary from five gallons to several hogsheads, according to its size and the height of the receiving tub above the point *c*. The cost of the whole may vary from \$10 to \$100, according to the size, finish, and nature of the materials with which it is constructed, as wood, metal, pottery, or stone.

AGRICULTURAL CHEMISTRY.—No. 13.

Sugar.—You are familiar with the appearance and common properties of sugar, and are aware that it dissolves readily in water. The juices of trees, grasses, and of cultivated roots contain sugar dissolved in them; and it is also present in the juices of fruits, associated with various acids. The *ultimates*, (elementary constituents,) of sugar, are carbon, hydrogen, and oxygen. I have previously informed you how these several elements are drawn from the air, and the soil.

Starch.—This is one of the most abundant products of vegetation. It is found in all those grains, or seeds, which are commonly used for food, as wheat, rye, oats, &c., and forms a large portion of the weight of potatoes, and several other nutritive roots. From 40 to 70 per cent. of wheat flour consists of starch. It is also found in the woody fibre of some trees. Its presence can always be detected by mixing a solution of iodine with the substance supposed to contain it, when, if starch be present, it will be changed to a permanent blue color. Animal fat is composed of the same elements as sugar and starch, and for this reason, those articles of food containing a large proportion of one or both of these substances are most valuable for fattening stock.

Gum.—There are many different species of gum, though they all possess nearly the same chemical ingredients. You have doubtless often observed it exuding from the trunks or branches of trees; it also exists in the sap of many trees from which it does not exude, and is found in greater or less quantity in the juices of most plants.

Woody Fibre.—This is obtained in a state of purity by boiling small pieces of wood in successive portions of water and alcohol. It is thus obtained in the form of a white, fibrous mass, without taste or smell, and is insoluble in water. Its chemical character is always very nearly the same, from whatever source it is obtained. Woody fibre forms nearly half the weight of the dried stalks of grasses. In beets, and many other roots cultivated for food, the quantity is small, but increases when the root is left in the ground until it becomes old.

The four proximate principles of plants above

described, (sugar, gum, starch, and woody fibre,) being composed of the same elements, are frequently changed in plants, or transformed one into another. Thus, "what is starch in one part of a tree may be transformed and conveyed to another part of the same tree in the form of sugar. That which, in the form of sugar or gum, passes upwards or downwards with the circulating sap, may, by the instrumentality of the vital process, be deposited in the stem in the form of wood, or in the grain in that of starch." Some of these changes may be performed by the chemist; he can convert woody fibre into starch, and starch into gum, though he cannot make either of these substances by a direct union of the elements of which they are composed. All he can accomplish in such attempts, is to change one organized substance into another.

Gluten.—This is a soft, elastic substance, obtained by washing dough, and pressing it through a sieve or cloth. It is found in most kinds of grain, though most abundant in wheat.

Vegetable Albumen.—This is also obtained from dough, and is a substance exactly resembling the white of an egg, having the same chemical composition and the same properties. Gluten and albumen contain the same ingredients as sugar, starch, &c., with the addition of nitrogen, and their four ingredients, (carbon, hydrogen, oxygen, and nitrogen,) are united in each in the same proportions. Gluten and albumen are found in the seeds of most kinds of grain, the former being somewhat more abundant. Wheat contains from 8 to 35 per cent. of gluten, and from $\frac{1}{4}$ to $1\frac{1}{2}$ per cent. of albumen. These two compounds are of much value in food, for the reason that they contain nitrogen, an element which enters into the formation of muscular fibre, and consequently is essential to the support of every breathing creature.

Diastase.—This is a substance not found in any seed nor plant, only at the time of germination, (sprouting,) and is therefore produced at this time, and aids in this process. The only part of the seed in which it is found, at this time, is where it is connected with the sprout, and it disappears as soon as the shoot begins to put forth leaves. Diastase, when separated by a chemical process, from its connexion with the germ and seed, is in the form of a white, tasteless powder. On account of the difficulty of obtaining it in a pure state, it has never been analyzed, though it is known to contain nitrogen. The purpose for which it is formed, at this particular time, is to perform a function without which the seed could never germinate.

The following description of the properties and action of diastase, which I copy from Johnston's Agricultural Chemistry, will give you a clear view of its use, and the manner in which it performs its office, "Diastase possesses the property of transforming starch entirely—first into gum and then into grape sugar. One part of diastase will convert into sugar 2,000 parts of starch. The starch in the seed is the food of the future germ, prepared and ready to minister to its wants whenever heat and moisture concur in awakening it to life. But starch is itself insoluble in water, and could not, therefore, accompany the fluid sap when it begins to move and circulate. For this reason, diastase is formed

at the point when the germ first issues from the mass of food. Then it transforms the starch and renders it soluble, so that the young vessels can take it up and convey it to the point of growth. When the starch is exhausted, its functions cease. It is then itself transformed and carried into the general circulation."

Vegetable Acids.—These are found in various fruits, particularly when unripe, and in nearly all plants, although, in general, they form but a small portion of any plant or fruit. *Acetic acid*, or vinegar, is one of the most abundant and common of this class of compounds. The fermentation of many vegetable juices produces this acid, and it is formed during the germination of seeds. Its union with any of the salifiable bases forms a class of salts called "acetates." *Tartaric acid* is found in the grape, tamarind, mulberry, and sorrels, and is formed for commercial purposes from the sediment, or tartar, deposited from wine after it is decanted from the lees. *Cream of tartar* is formed by a union of this acid with potash, and is called, in chemical language, "bitartrate of potash." Acetic and tartaric acids are both composed of carbon, hydrogen, and oxygen, though in different proportions. *Citric acid* is found most abundant in lemons, and imparts to them their sourness, though it also exists in many of our common garden fruits. Its chemical composition is the same as that of tartaric acid, with the exception of one atom less of oxygen. *Malic acid* is produced abundantly in many kinds of unripe fruit, and forms with lime, soda, and potash, a class of salts called "malates." Its composition is identical with that of citric acid, though its nature is quite different. *Oxalic acid* is composed of oxygen and carbon, and differs from other vegetable acids in containing no hydrogen. It is sold in drug stores in the form of crystals, is exceeding sour, and a deadly poison. It exists in several species of sorrel, imparting to them their acidity; and is also found in the leaves and roots of rhubarb. It forms salts with various bases called "oxalates." The reason why we are not poisoned by eating those vegetables in which this acid is found, is, because the quantity of the acid in them is so small.

Vegetable acids, like the other proximate principles of plants, are formed in the living vegetable, out of the elements drawn from the soil and atmosphere. Nature is thus continually elaborating in the vegetable system, those compounds which plants require; and these are such as can only be formed by a power inherent in vegetables.

J. MCKINSTRY.

Greenport, N. Y. April, 1849.

AMERICAN CAPONS.

In yours of April 4th, you ask me what success I had in making capons. I sent, last fall, my farmer, Mr. Nicholas Feisch, to Bordentown, where, for five dollars, he was taught how to make capons. The first seven he tried, he killed four; the next seven, he killed three; the next 66, he killed only one. Now, as these eight bled to death we ate them. The others we have eaten as capons—not having fattened them, but let them run with the other poultry. Out of the 72, only three were imperfectly altered, and the average weight of

these altered capons, not stall-fed, was over seven pounds, double the weight of the unaltered fowls that run with them.

I had one young cock turkey altered, which I will keep until next Thanksgiving day, when we will eat him, and give you his weight, and whether tender or not. You had better come over at that time and taste him.

R. L. COLT.

Paterson, N. J., May 4th, 1849.

THANKFUL FOR SMALL FAVORS.

ALTHOUGH we have lost our anticipated Agricultural School and Experimental Farm, we would not fail to acknowledge, in behalf of the farmers of the Empire State, our indebtedness to the last Legislature for having passed the following resolution:—

"Resolved, (if the senate concur,) That a board of eight commissioners, (one from each judicial district,) be appointed by the Governor, whose duty it shall be to meet at the city of Albany on the 16th day of May next, to mature a plan for the establishment of an Agricultural College and Experimental Farm, and prepare a statement of the probable expense of such an institution, and a detailed account of the course of studies and plan of operations recommended, to be delivered to the Governor on or before the first day of September next, to be by him submitted to the Legislature at its next session."

Under the above authority, Governor Fish has appointed the following gentlemen to meet in council on the subject:—

Joseph Blunt, New York, 1st district; John P. Beekman, Columbia county, 3d district; Samuel Cheever, Saratoga county, 4th district; Edmund Kirby, Jefferson county, 5th district; Adrian Lott, Chenango county, 6th district; James S. Wadsworth, Livingston county, 7th district; William Risley, Chautauque county, 8th district.

If the hen did not lay the egg, she could at least cackle to let us know she had been thinking about it.

— CULTIVATION OF THE TEAZLE.

In conversing with a gentleman from Lowell, Massachusetts, some time since, I was surprised to hear that the amount of teazles imported from France, and consumed by the manufacturers of that city, alone, exceeded \$200,000 worth per annum. On inquiry why this demand was not supplied by our own country, he informed me that the American teazles were deficient in that toughness and elasticity peculiar to the French ones, which he thought was owing to the mode of harvesting and preparing them for market, or, perhaps, from the nature of the soil and climate in which they are grown.

Being desirous to make an experiment in the cultivation of this plant, you will oblige me, and probably others, by throwing some light on the subject through the columns of your journal.

J. N. C.

Monmouth Co., N. J.,

May 5th, 1849.

—
The fullers' thistle, or teazle, (*Dipsacus fullo-num*.) is a biennial plant from four to six feet in height, prickly and rough in the stem and leaves,

and terminated when perfect by rough burr-like fruit, or flower heads, which have been used by cloth dressers from time immemorial, for raising the nap upon flannel and woollen cloths, by means of their crooked paleæ, or spines.

The soils in which the teasle succeeds best, are deep, loamy clays, moderately rich, but it will grow on many other lands by the addition of farmyard or pig-sty manure. The situation should be rather elevated, airy, and if in a cold climate, exposed to the south. In rotation, it may occupy the place of a crop of grain or Indian corn, as the first year, the plants are treated similar to turnips, and the second the crop is ripened; or, it may be cultivated as a fallow to prepare for wheat; and by burning the stalks and refuse after the crop is cut, it will be found not to impoverish, but rather improve the land. The soil should be plowed deep and well comminuted by harrows, forks, or spades.

The proper season for sowing, is the end of May or early in June. The quantity of seed per acre may vary from eight to sixteen quarts, and in quality, it should be fresh and plump. The most expeditious mode of sowing is broadcast, but no crop is better adapted for growing in drills, as the plants require to be thinned and hoed. The distance between the rows may be from two feet to two feet and a half. In the summer and autumn of the first year, the soil should frequently be stirred with a hoe or the plow, and if sown broadcast, the plants may be thinned out to a distance of twelve or fourteen inches every way, or eight to ten inches from each other, if sown in rows. In their young state, they generally stand our northern winters without much injury from frost or snow, and are an excellent crop for clearing land of weeds, from their lateness of hoeing, there being fewer weeds when the season is so far advanced.

Early in the spring of the second year, the ground is again to be worked over with a spade or fork, care being observed that none of the mold fall into the hearts of the plants; and, later in the season, when they begin to spindly, they should receive another dressing by raising the earth around the root stems, with a hoe, in order to support and prevent them from being blown down by the wind. In the north of France, while the plants are in flower, they reduce the number of heads to each stalk, if practicable to, two or three, in order that the energies of the roots may be directed to fewer points.

The harvesting of the crop, when no regard is had for seed, usually occurs in July, of the second year, which is announced by the yellowish color of the heads, soon after the fall of the flowers. They should be cut off, with a sharp knife or hook, just above the upper leaves, with from nine inches to a foot of the stem left on, and received into a basket, or tied up in handfuls by the stem of one that is more perfectly ripened. In the mean time, the hands of the operator should be guarded against the spines by means of strong gloves. Three cuttings are made at intervals of eight to ten days, selecting those only which have yellowish heads. On the evening of the day they are cut, they should be put into a dry shed or barn; and when the weather is fair, and the air clear, they should be taken out,

daily, and exposed to the sun, till they become perfectly dry. Much care must be taken, however, that they are not wet, or moistened, by the rain or dew. During this operation, some make use of small poles on which the handfuls are hung, and conveyed to and from the sheds.

As soon as the teasles are completely cured, they should be closely stored in a dry room, till they become tough, of a bright color, and ready for use. They should then be assorted and separated into three different grades. The finest and firmest are called *kings*; the second, *middlings*; and the inferior, unripe, and brittle kinds, *scrubs*.

To save the seed, leave a few of the very best plants uncropped; and then, when the seed is ripe, cut off only the largest and terminating heads, from which the seed can easily be separated by beating with flails, and cleaned by a fanning mill or a common sieve.

GREEN SWARD FOR ROOT CROPS.—Most farmers have tried green sward for potatoes and found it highly successful. Few, however, have tried them with beets, carrots, turnips, &c.; for which the sward is equally beneficial. The only preparation needed, is to add long manure enough to afford a supply of vegetable food below; then turn over a good growth of grass, burying it deeply, and follow with the subsoil plow; and on the surface scatter well-rotted manure, guano, ashes, or plaster, and harrow thoroughly lengthwise of the furrow. The surface is thus well prepared for the seed, and the rotting of the manure, grass, and roots. Keep the under soil loose, while the preparation from the subsoil plow will give a greater extension to the roots. Let some of our readers try this plan at the present season, no matter if the sod is not turned over before the 15th of June. Try it and let us know the result.

THE NONDESCRIPT ANIMAL.—There has been recently exhibited in this city, what purported to be a wonderful animal which was caught by Col. Fremont's party, on their route to California. It appears to combine the form and general appearance of the horse, with the shaggy hide of the buffalo, and a tail without hair. The former, though somewhat singular, appears to have been the animal's own; but the paucity of the caudal drapery, the pilgarlic tail, we opine, is due to the assistance of art, to eke out the rarity. We have conversed with an intelligent Mexican, from Zacatecas, himself another Job, or Jacob, in the extent of his ownership of cattle, sheep, and half-tamed horses, who says horses of this description, though very rare, are still occasionally seen among the numerous herds of Mexico and the country adjoining, commonly known there by the name of *caballos chinos*, or curly-haired horses.

ADVANTAGES OF THE RIDGE SYSTEM OF PLANTING POTATOES.—The ridge, or drill system, (thus **ΛΛ**.) of planting potatoes on moist, low ground, gives double surface, double light and heat, double air, double protection against rain, double depth of mold and drainage, and is altogether superior to the flat-surface mode of planting.

Ladies' Department.

A FEW MORE TRIFLES FOR THE LADIES.

To Purify Tallow.—Mix 5 parts of beef tallow with 3 parts of mutton tallow, in a copper or iron kettle, with half a pint of water to each pound of grease. When melted, mix 8 ounces of brandy, 1 ounce of salt of tartar, 1 ounce of cream of tartar, 1 ounce of sal ammoniac, 2 ounces of pure and dry potash, with the tallow. Boil fifteen minutes, and set off to cool. When cold, take off in cake and bleach it in the air and dew a few days and nights. It will then be hard and white. Candles, with a fine cotton-yarn wick, (6 to a pound,) will burn 14 hours.

Tomato Catchup.—First bake your tomatoes, then squeeze them through a sieve. Add to 6 quarts of juice an equal quantity of wine vinegar; boil slow until it begins to thicken; then add cloves, allspice, and pepper, $\frac{1}{2}$ an ounce each, cinnamon $\frac{1}{4}$ of an ounce, and 2 nutmegs, all finely powdered. As it thickens, add four spoonfuls of salt, and when done, pour out in an earthen dish to cool. Bottle, cork, and seal, and it will keep years in a warm climate.

Potato Pudding.—Take $\frac{1}{2}$ of a pound of sugar, $\frac{1}{2}$ ditto of butter, and beat well together; add one pound of boiled potatoes, (Irish or sweet,) rubbed fine through a collander or mashed; six eggs, the whites and yolks beat separately, and a wine-glassful of brandy and one of wine, a trifle of rose water, and cinnamon or nutmeg, as much as you like.

Rice Bread.—Take six tablespoonfuls of boiled rice, and one of butter; rub them together, and then pour in half a pint of milk; add two eggs, and six tablespoonfuls of wheat flour. Mix all well together, and bake a little brown; and you will have a very good and wholesome kind of bread. SOLON.

Columbia, S. C., April, 1849.

TO MAKE DRAWN BUTTER.

Into a quarter of a pound of butter, rub a tablespoonful of flour, and half a teaspoonful of salt, until it becomes a smooth batter. Have ready half a pint of boiling water, in a sauce pan; stir the batter into it until perfectly smooth, and let it simmer for fifteen minutes, stirring it frequently. Some cooks will tell you it must be stirred all the time it is on the fire, which is quite unnecessary, as all that is intended by such directions is, that it must be watched and stirred often enough to prevent it from becoming "lumpy," and burning to the bottom of the sauce pan.

This drawn butter is the foundation of most gravies and sauces—as oyster sauce, celery sauce, &c. &c., and the following cheap sauce for puddings is among them:—

For six people, make the quantity directed in the above receipt, and have ready in a bowl six large teaspoonfuls of good brown sugar; half a teaspoonful of powdered cinnamon, or half a grated nutmeg, moistened with a wine-glassful of white, or home-made currant wine; pour the drawn butter, while boiling, on this; stir it well, and serve in a sauce bowl.

If wine is thought to be too expensive, or is objected to for other reasons, lemon juice is a delicious substitute, but it requires double the quantity of sugar; or, if your vinegar is pure and well flavored, use the proper quantity of that, instead of the wine. E. S.

Eutawah, May, 1849.

HOW TO WEAN A SETTING HEN FROM THE NEST.

Your correspondent, at p. 224, volume seventh, of the *Agriculturist*, in his sensible remarks on the subject of Dorking fowls, speaks of their being "rough nurses," and advises, as the best way of rearing their broods, that the eggs be hatched by other hens; and then says: "The only question is, how the hen is to be managed when the sitting fit comes on; for they are most persevering sitters." I am sorry to say I have never been able to procure pure Dorkings to experiment upon, and therefore cannot tell how my method might answer with them; but with my mongrel hens, which are very good of their kinds, I have no difficulty. However persevering they may be, I manage to tire them out. When I find one determined to sit, that I know to be an indifferent mother, I watch her closely, and whenever I find her on the nest, I apply the hydropathic remedy, a cold bath. If the weather be warm, I plunge her, head and all; if cool, I only dip her breast in cold water, and put her on the perch. Three or four such immersions always effect a complete cure.

When two small broods are brought out within ten days of each other, and I do not want to lose the time of two nurses, I give both broods to the hen that hatched first, and shut the other up, at a distance from the coops, where she can neither see nor hear her chicks. After four or five days' solitary confinement, I take her at night, and put her into the hen house with the other fowls, and always find that she leaves it in the morning to seek her food with them; and that, in a week or so afterwards, she begins to lay again. *M.*

May 5th, 1849.

CLEARING LAWNS.—The most effectual method of clearing lawns and pleasure grounds of snails, grubs, and worms, that I have ever tried, is to allow my fowls to run at liberty in the autumn, and early spring. They will pick every blade of grass clean; scratch around the roots of trees and shrubs, fly into the branches, and clear them of larvæ and chrysalides, hunt under the edges of stones and fences, and drag them to light; and finally, they greedily eat the seeds of weeds, and such flowering shrubs as become almost a nuisance by springing up by thousands, if you neglect to gather the seed vessels in the fall.

FRIED POTATOES.—The French cooks at the large hotels are making this dish very fashionable. The potatoes are peeled, wiped, and cut into thin slices, then thrown into a fryingpan containing an abundance of hot lard. As soon as they become brown and crispy, they are thrown into a collander to drain, then sprinkled with salt, and served up as hot as possible. It is used at breakfast.

Boys' Department.

FACTS IN NATURAL HISTORY.

WHEN I was in New Orleans last winter, I met with a most worthy old gentleman, Judge Strawberry. I give his name, because there are a good many "old boys" about Philadelphia, that will like to hear of him; and he invited me to go with him over to his place, across Lake Ponchartrain.

Well, the Judge is very intelligent, and tells a great many very interesting stories. Here is one of them:—"That tree you are looking at," said he, as I was looking at a famous old oak that he did not cut down when he built a house close by, "reminds me of a little anecdote. The first summer that I spent here, at Covington, I lived in a house a mile below. I was sitting one evening on the back gallery, watching the caterpillars crawling along the ground under an old oak like this, when my curiosity was excited to see one great fellow, about three inches long, going by at a most rapid rate, quite unaccountable. I got up directly, and went down to see whether he had got a locomotive in him, or what; when, behold, a great long-legged kind of wasp, that we have here, had mounted the worm a-straddle, as we would a horse, and was riding him to the shambles, intending, no doubt, to butcher him about sundown, for supper. It was so curious a sight, that I determined to watch the sequel, and see what the wasp would do with his wormship. But I missed it; for, after riding several yards, he passed under a small tree, and directly I heard a rustling in the leaves overhead, and down dropped a lizard directly on the wasp and worm, and knocked the rider heels over head out of sight into the grass, and then gathered up the worm, and in a half minute after had him up the tree, eating him at his leisure, I suppose. This is the way with all nature—the strong rob the weak, which are often sent supperless to bed. I told the story to my family, and they laughed as though they doubted, or disbelieved, the fact. This is a trait in human nature, too. Facts are often doubted, and fables believed.

"Well, years after, my wife and I were sitting under this very tree, when along came another caterpillar and his rider. Now, then, let us watch this, and see what the rider will do with his horse, said I. 'Oh,' she exclaimed; 'but here comes the conqueror for the 'lion's share.' And sure enough, like a hawk pouncing upon his prey, down came another lizard. Ah, well then, let us watch the battle, and see what the lizard will do with the spoil. But we did not; for while the wasp and lizard were fighting for their prey, out came a toad from that very hole there at the root of the tree, and, unobserved by either of the combatants, hastily gobbled up the worm and hopped back again to his hiding place, while the lizard was running around like something half-crossed, or mad, at the loss of his supper."

Such was the story, and it interested me very much, and I hope it will all the boys who read it. If the snake had been there to catch the toad, and the owl to catch the snake, and the boy to catch the owl, how truly natural dispositions would have been illustrated.

Here is another curious fact related by the Judge. "When I first came to New Orleans," said he, "the old Carondelet Canal was the only means of communication with the lake. Upon this, as well as upon the bayou St. John, into which the canal opened, was a great mass of some kind of water plant, a sort of vine, that so covered the water and clung to the bows of vessels as seriously to impede navigation.

"Some time afterwards, there came a Yankee to New Orleans, (I don't mean to say only one—their name is legion,) and he brought with him another 'water plant,' whether on speculation, or not, I don't know. But this was not a vine. It more nearly resembled a house leek than anything else. I forget what he called it. Well, he put it to grow in a water cask, and it multiplied and spread all over the top, and then it broke off in pieces and floated over and down the ditches and finally into the canal. The Frenchmen found and saved the Yankee innovation, but on it went spreading, in spite of cures, and in a few years it was all over the canal and down the bayou. In the mean time, where was the old pest of the canal? Gone entirely. The Yankee innovator had rooted the old *habitant* out, and grew there in its stead. Nobody cared for this; it was not in the way, and it made a very good shade for alligators and catfish.

"After a time, I was walking along the canal, and behold, the Yankee water plant was not there. When, why, or how it had gone, none could tell, but it was gone."

Back of the city, along the old ridge road, (land that is not absolutely under water,) there are some extensive commons. While passing down the Ponchartrain Railroad, the Judge called my attention to this, and then said: "a few years ago, this land was all covered with a perfect wilderness of burdock. It was a most decided nuisance. But little grass could grow, when all the ground was covered with these broad shading leaves. Horses and mules that run out at common, were a sight, with their tails and manes loaded and hair all matted together. What influence was brought to bear upon this plant, I know not, but it disappeared as suddenly and as mysteriously as the water plant—all gone—not a root to be found. What was the cause, who can tell? Ah, well, we shall soon disappear, too, and it will only be a few old grey heads, like you and me, that will remember that we were once here."

Now, boys, if you like these anecdotes, I have more of them yet to give you some day. SOLON.

Sparta, Geo., April 8th, 1849.

AN EXPERIMENT.—Early in the morning, when there is likely to be a hot, sunny day, make a mark on a fence or wall, level with the top of a shoot of a hop or grape vine. Although the sun shine hotly on it during the day, it will not increase. But observe it again early the next morning, and you will find that it will have grown from half of an inch to two inches.

VALUE OF EDUCATION.—If a man empties his purse into his head, no one can take it from him.—*Dr. Franklin.*

FOREIGN AGRICULTURAL NEWS.

By the steamer *Hibernia*, we are in receipt of our foreign journals to 27th April.

MARKETS.—*Ashes*, slow of sale; *Cotton* remains unchanged; *Flour and Indian Meal* have declined, and a heavy market in general for American products.

Money continued plenty at a low rate of interest.

The Weather has been as severe in Europe as here. Snow fell on the 20th of April in London, and other parts of England, sufficiently deep to cover the trees and earth. Hard frost followed.

Couve Tronchuda, or Portugal Cabbage.—The seeds of this plant may be sown and treated exactly like those of the common cabbage. The white ribs make a dish somewhat resembling sea-kale, and the heart boils very tender.

Amount of Combustible Matter in Soot.—The "Farmers' Almanac" gives an analysis of soot, showing that of 1,000 parts, 671 consist of combustible matter—in other words so much fuel wasted.

Shipment of Eggs from Spain to Ireland.—A cargo of eggs, direct from Spain, recently arrived at Cork.

Planting of Potatoes in Ireland.—The planting of potatoes is going on most vigorously in every part of Kerry. There is also sown in the same county, a very small breadth of wheat, as well as large quantities of oats.

A Benevolent Rake.—The Marquis of Waterford, of knock-down-watchman memory, in order to give food to the peasantry, and thereby repress crime, is now employing on his estate, in Ireland, 1,000 laborers in draining, ditching, hedging, and other occupations.

Packing Potatoes for Long Voyages.—When quite ripe, pack them in dry clay, rammed tight in a stout wooden box, in a part of the ship perfectly dry.—*Agricultural Gazette.*

Potatoes in India.—The potatoes from Bombay, Darjeeling, and Cherra Poonjee seed; were wonderfully fine and healthy and to enable the public to form some idea of the state of perfection this grand and staple vegetable has been brought to, in this district, it is here recorded that 40 potatoes out of one garden weighed 20 lbs. The skin of all delicately white and fine, and every potato free from knots.—*Jour. Agricultural and Horticultural Society of India.*

New Use of Peat.—A valuable discovery has recently been made in Paris, in extracting, by a chemical process, ammonia, naphtha, soda ash, oil, and spermaceti from peat. At an expense of £30, the product of 100 lbs. of peat will amount to £148. This is regarded as one of the greatest discoveries of the age.

A Sow Living Five Weeks Without Food.—A farmer, in Brickendon, lately missed a fat sow for five weeks, when she was found alive under a barn floor. The poor animal, which weighed 224 lbs. when missed, weighed only 70 lbs. when discovered, having wasted 154 lbs. When released, she could not rise from the ground; but, after having some milk, she could walk, and has since rapidly improved; in fact, she is said to be getting quite fat again.—*English Paper.*

Directions for Putting Up Seeds for Long Voyages.—All seeds should be picked when fully ripe, and carefully kept dry during the voyage. Various means of doing this have been tried, such as soldering in tin cases, hermetically sealing, &c. But perhaps the best way of all is, to wrap your seeds in separate bags of thick brown paper, and put all these bags together in a strong canvas sack, which must be so laid, in a dry place, as to be easily got at during the voyage; then you must choose fine dry sunny days, at

intervals, on which the sack may be emptied out, and each paper bag carefully examined; if any have become at all damp, hang them up to the roof of the cabin, or other convenient place, until dry, and then restow them. The stern cabin, in the poop, is the best place for keeping your seed bag.—*Gardeners' Chron.*

Pig Tails.—Pigs with little hair on their bodies are most liable to lose their tails, showing a weakness of the tegumental structure. It may be prevented by crossing with a more hairy breed. The writer has a black sow, principally of the Berkshire breed, whose first litter, by a boar very similar to herself, nearly all lost their tails. Since then, she has had two litters by a white Yorkshire boar, not one of which has been deprived of this ornamental appendage.—*Id.*

Curious Arrangement of the Seeds in an Orange.—A gentleman of Helston, Cornwall, on opening an orange the other day, found 30 seeds all attached together, and very much resembling a bunch of grapes. The orange was of ordinary size, but all the seeds were much beyond an average. The most singular part of this *lusus naturæ* is, that the bunch of seeds was suspended by a stem growing from the side of the orange.—*Id.*

Difference in Quality between Stall-fed and Barn-yard Manure.—The analysis of manure recently made at the London Agricultural College, from boxes and from ordinary yards, is as follows:—

	Box Manure.	Yard Manure.
Water, - - - -	71.4	71.
Nitrogenised matter, capable yielding ammonia, 100 parts dried, - - - -	2.37	1.7
Salts soluble in water, containing organic and inorganic matter, - - - -	10.7	4.6
Organic, - - - -	6.42	1.82
Inorganic, - - - -	4.28	2.78
Phosphoric acid, - - - -	0.3	0.26
Alkalies—Potash and soda, - - - -	2.	0.08
	97.47	82.24

Sale of Louis-Philippe's Stud.—There were lately sold at the Park of Monceaux, in France, the stallions, brood mares, and colts of the *haras* of St. Cloud, Meudon, and Versailles; but the prices obtained were low. Va-nu-Pieds, a seven-year-old stallion, was sold to M. Debeague for 1,050 francs, which is not a fifth part of his value in ordinary times. Rabat Joie, a six-year-old stallion, which had been valued a 6,000 francs, was sold to M. Guilloteau for 1,075 francs. Saklawy, a nine-year-old stallion, presented by the Viceroy of Egypt to Louis-Philippe, was bought by the Minister of Agriculture for the *haras* of St. Cloud for 3,020 francs; orders had been given to go as high as 6,000 francs. A bay brood mare, presented to Louis-Philippe by the Sovereign of Mascata, was sold to M. Bayeux for 700 francs. Among the best prices was 4,150 francs for a bay colt purchased by M. Perceval, and 5,200 francs for a four-year-old, purchased by M. Manuel, an *agent-de-change*. A few carriages were disposed of at this sale. The *char-a-banc*, in which was the Ex-king with the Royal Family, when Lecomte fired at his Majesty at Fontainebleau, and which cost 18,000 francs, sold for 2,200 francs. It was purchased by the sons of the late Ibrahim Pascha, who intends to send it to Egypt. The small *coupe* in which, notwithstanding its restricted space, Louis-Philippe, the Queen, and three persons of the family, made their escape to St. Cloud on the 24th of February, was sold to M. Thierry for 865 francs. An old landau, in which Louis XVIII. returned from Hartwell to St. Ouen, in 1814, was sold to a breaker-up for 150 francs.—*Galignani's Messenger.*

Editors' Table.

ANNUAL ADDRESS BEFORE THE NEW-YORK STATE AGRICULTURAL SOCIETY, FOR 1849.—We are happy to announce to our readers that the distinguished agricultural chemist, lecturer, and author, Professor James F. W. Johnston, of England, has consented to deliver the annual address at the State Fair, to be held at Syracuse, in September next. Professor Johnston has, for many years, occupied the first position among the reliable teachers of modern scientific agriculture, and we shall hail his presence among us with the sincerest pleasure, not only from the benefit which American farmers may derive from intercourse with him, but from the enlarged views he may be enabled to acquire from the new multiplied phases in which his favorite agricultural researches will be presented to him.

We understand he expects to remain in this country and Canada for a year, and we bespeak for him that attention which his own character and the objects he has in view, equally with the well-known hospitality of American agriculturists, will not fail to secure him.

A LARGE PORKER.—Mr. T. H. Botsford, of Middlebury, Ohio, butchered, last season, a hog, seventeen months old, that weighed, when alive 825 lbs., and 780 lbs. after it was dressed, being a loss of less than $5\frac{1}{2}$ per cent.

GROWTH OF PLANTS IN CONFINED AIR.—It is now well known that a plant flourishes as well or better when grown in soil in a transparent vessels with the external air excluded, than when exposed to its influence. Mr. Leeds, druggist, corner of Atlantic and Court streets, Brooklyn, has a monthly rose in a large glass jar, planted in the usual soil. This jar is hermetically sealed, and yet the plant has flourished, its leaves being of a healthy green, and it grows faster, and blossoms earlier, than any similar plant exposed to the atmosphere. It has been kept more than two years in this state, having been opened only twice to clean out the grass, which grows, also, more rapidly than from the pots exposed.—*Mr. Partridge.*

TEA GROWN IN THE UNITED STATES TWENTY YEARS AGO.—Mr. J. W. Averill, of Plymouth, Michigan, in a communication in the "Dollar Newspaper," says, that in "about the year 1820, I had a plant come up in a bed in my garden, which I ascertained to be the tea plant, from which I procured six pounds of as good tea as ever came from China. For several years, I cultivated the bush, and made many experiments in the curing it, until it became a matter of notoriety. I finally moved from the place I then lived on, and withal removed the tea plant; and the consequence was, that it died. And now, if you can tell me the way to get hold of some of the seeds, I will undertake to propagate the plant to its utmost perfection."

THE QUADRUPEDS OF NORTH AMERICA, by John James Audubon and Rev. John Bachman. New York: V. G. Audubon, 43 Beaver street. To be completed in 30 numbers, imperial octavo, at \$1 each. We have received the first number of this splendid work, containing five illustrations colored after nature. Only the smallest of our quadrupeds will be given of full size, the larger to be reduced to bring them within the compass of the page. Although the quadrupeds of North America have been partially illustrated and described by several authors, their full and accurate history has never yet been given. The work before us is undertaken by those whose names are a sufficient guarantee that it will be done with such thoroughness and accuracy, as to commend it to the lovers of science and nature wherever it may be read. We need scarcely add, that, to the gentlemen

above-named, we are indebted for the splendid work on the Ornithology of America, which has given a world-wide fame to these distinguished authors, and reflected so much credit on our native American genius.

BAGLEY AND CO.'S GOLD PENS.—"Blessed be the man who invented gold pens!" Elastic, cleanly, enduring, beautiful, and a never-failing friend to the writer. A good one will last a man's life time, properly taken care of. Page after page may be written rapidly, smoothly, up to volumes, without requiring mending or renewal. "Blessed be the man," said a certain knight of old, "who invented sleep;" but we say, again, "Blessed be the man who invented gold pens."

THE WOOL GROWER AND MAGAZINE OF AGRICULTURE AND HORTICULTURE.—This is a new periodical, as we take it, being No. 2, volume 1, but the only specimen we have received, and this without names of editor, publisher, price, or period of issuing, we are left entirely to conjecture on the subject. It is dated Buffalo, May 1st, 1849, and we suppose is from our staunch, old, agricultural friend, T. C. Peters, Esq., as editor, proprietor, and publisher, for all of which we deem him entirely competent. If there happen to be a *hiatus* in some of the minor forms of a periodical—there is none in the matter of the work. It exhibits sound, practical, matters-of-fact sentiments on one of the leading and most important branches of American industry.

MAMMOTH MULES.—The Cincinnati papers speak of an exhibition there of two mules, which are the largest ever seen in that city. One, a black male, four years old, by Everett & Young's jack, Mammoth, Montgomery county, Kentucky, is eighteen hands high. The other, the same age, a brown female, by John Scott's jack, Franklin county, in the same state is seventeen and a half hands high. The two were put on the scales together, and found to weigh 3,000 pounds. The price demanded for them is \$200 each. Both raised by a Mr. Thomas, in Scott county, Ky.

ACCIDENT TO THE CHARTER OAK.—We understand that the old Charter Oak, at Hartford, Ct., was set on fire a few weeks ago, by a cracker thrown into the hollow of the trunk by some reckless boys which caused considerable injury to that much-revered and national tree.

LITERARY HABITS OF THE HOG.—From the Transactions of the Worcester-County Agricultural Society for 1848, we copy the following racy pun on swine:—The hog is exceedingly *litterary* in his habits. His works are published in large issues of 10 and 12mo. with an appendix at the end of each, *interlarded* with liberal quotations from *Greece*. Although he has dealt somewhat largely in *stocks* and *banks* and domestic produce, his property, like that of most purely literary men, is his *pen*. Like the good and great in all ages, he has his imitators and counterfeiters. His posthumous benefactions find their counterfeiters "*in linked sweetness long drawn out*," not only at Bologna, but in every other quarter of the world. It is said that some of the sweetest and rarest morsel imported into Eden, when Adam was making preparations for housekeeping, were conferred upon Adam's rib, which he spared for domestic use. So by a singular coincidence, some of the sweetest combinations of animal organization are conferred upon our friend's *spare rib*. He is in some respects a pathetic philosopher, making all his discoveries in his rambles. He is no superficial searcher after truth. He skims not over the surface. He goes to the *root* of the matter. He takes things, not by guess, but knows. If he is not in favor of the "free-soil movement," he is of the *free movement of the soil*, and manifests his attachment to his principles by incessant labor in the cause.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, MAY 14, 1849.

ASHES, Pots,.....per 100 lbs.	\$5 50	to	\$5 63
Pearls,.....do.	5 50	"	5 75
BALE ROPE,.....lb.	9	"	11
BARK, Quercitron,.....ton.	26 00	"	28 00
BEANS, White,.....bush.	75	"	1 25
BEEFWAX, Am. Yellow,.....lb.	19	"	22
BOLT ROPE,.....do.	11	"	12
BONES, ground,.....bush.	40	"	55
BRISTLES, American,.....lb.	25	"	65
BUTTER, Table,.....do.	15	"	25
Shipping,.....do.	9	"	15
CANDLES, Mould, Tallow,.....do.	10	"	13
Sperm,.....do.	25	"	40
Stearic,.....do.	20	"	25
CHEESE,.....do.	5	"	10
COAL, Anthracite,.....2,000 lbs.	5 00	"	6 00
CORDBAGE, American,.....lb.	11	"	13
COTTON,.....do.	6	"	10
COTTON BAGGING, Amer. hemp,....yard,	15	"	16
FEATHERS,.....lb.	30	"	40
FLAX, American,.....do.	8	"	9
FLOUR, Northern, Southern and West'n blbl.	4 38	"	5 31
Fancy,.....do.	5 50	"	6 75
Richmond City Mills,.....do.	6 75	"	7 00
Buckwheat,.....do.	—	"	—
Rye,.....do.	2 75	"	2 88
GRAIN—Wheat, Western,.....bush.	1 40	"	1 25
Red and Mixed,.....do.	95	"	1 10
Rye,.....do.	58	"	59
Corn, Northern,.....do.	60	"	65
Southern,.....do.	52	"	62
Barley,.....do.	58	"	59
Oats,.....do.	29	"	40
GUANO, Peruvian,.....2,000 lbs.	50 00	"	50 00
" Patagonian,.....do.	35 00	"	40 00
HAY, in bales,.....do.	42	"	50
HEMP, Russia, clean,.....ton.	215 00	"	230 00
American, water-rotted,.....do.	160 00	"	220 00
American, dew-rotted,.....do.	140 00	"	200 00
HIDES, Dry Southern,.....do.	8	"	9
HOPS,.....lb.	4	"	12
HORNS,.....100.	2 00	"	10 00
LEAD, pig,.....do.	4 70	"	4 75
Pipes for Pumps, &c.....lb.	5	"	7
MEAL, Corn,.....bbl.	2 87	"	3 00
Corn,.....hhd.	13 00	"	13 50
MOLASSES, New Orleans,.....gal.	22	"	26
MUSTARD, American,.....lb.	16	"	31
NAVAL STORES—Tar,.....bbl.	1 75	"	2 00
Pitch,.....do.	1 25	"	1 75
Rosin,.....do.	85	"	95
Turpentine,.....do.	2 37	"	2 75
Spirits Turpentine, Southern,....gal.	32	"	33
OIL, Lined, American,.....do.	59	"	61
Castor,.....do.	1 25	"	1 50
Lard,.....do.	60	"	70
OIL CAKE,.....100 lbs.	1 00	"	1 50
PEAS, Field,.....bush.	75	"	1 25
Black-eyed,.....do.	1 25	"	1 50
PLASTER OF PARIS,.....ton.	2 25	"	3 00
Ground, in bbls.,.....of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Moss,.....bbl.	9 00	"	13 50
Prime,.....do.	5 00	"	8 50
Smoked,.....lb.	6	"	12
Rounds, in pickle,.....do.	4	"	6
Pork, Mess,.....bbl.	10 00	"	13 00
Prime,.....do.	7 00	"	10 50
Lard,.....lb.	6	"	7
Bacon sides, Smoked,.....do.	3	"	4 1/2
In pickle,.....do.	3	"	4
Hams, Smoked,.....do.	5	"	9
Pickled,.....do.	4	"	7
Shoulders, Smoked,.....do.	4	"	5
Pickled,.....do.	3	"	4
RICE,.....100 lbs.	2 88	"	3 44
SALT,.....sack.	1 17	"	1 30
Common,.....bush.	20	"	35
SEEDS—Clover,.....lb.	5 1/2	"	—
Timothy,.....bush.	2 00	"	3 50
Flax, clean,.....do.	1 30	"	1 40
rough,.....do.	1 20	"	1 30
SODA, Ash, conf'g 80 per cent. soda,....lb.	3	"	—
Sulphate Soda, ground,.....do.	1	"	—
SUGAR, New Orleans,.....do.	4	"	6
SUMAC, American,.....ton.	35 00	"	37 00
TALLOW,.....lb.	7	"	8 1/2
TOBACCO,.....do.	3	"	—
WHISKY, American,.....gal.	21	"	23
WOOL, Saxony,.....lb.	35	"	60
Merino,.....do.	25	"	35
Half-blood,.....do.	20	"	25
Common do.,.....do.	18	"	20

NEW-YORK CATTLE MARKET.

At Market.—1,500 Beef Cattle, (1,300 southern, the remainder from this state and east,) 60 Cows and Calves, and 3,000 Sheep and Lambs.

Beef Cattle.—The market is firm in prices. The sales run from \$7 to \$9.25 per hundred. The number of head on hand, unsold, is estimated at 100.

Cows and Calves.—These vary from \$20 to \$50.

Sheep and Lambs.—These range from \$2.50 to \$5. All sold.

Hogs.—But few in market, ranging from 4 to 5 cents per pound, wholesale, and from 4 1/2 to 6 cents retail.

REMARKS.—The change in prices since our last has been trifling.

The weather in the latter part of April was so severe, that snow fell as far south as Georgia and Mississippi. Frost followed, and the result was that nearly all the cotton and corn in that region was killed and had to be replanted. But such is the scarcity of seed, that we fear this cannot be done with all the cotton fields, consequently, the ensuing crop must be short; but how much less than last year, time only can determine. As corn in the west was unplanted at the time of the frosts, and as there is plenty of time for it to grow at the south, this crop will be more certain. Fruit and all garden vegetables have also suffered much at the south; at the north they have been little injured. The season is very unpropitious here, however, and it is rare that we encounter one so backward.

To CORRESPONDENTS.—Communications have been received from Solon Robinson, E. S., John P. Norton, S. P. Chapman, C., Sally Greenleaf, J. McKinstry, A. L. Elwyn, and Reviewer.

Breeding and Management of Stock.—S. P. C., of Clockville, Madison Co., N. Y., requests that Mr. Sotham may continue his article on the management of stock.

Household Matters.—S. G., of "The Hills."—If you have had forty years' experience in housekeeping, and can furnish short, practical articles on cooking, or other subjects connected with domestic economy, they will be thankfully received.

ACKNOWLEDGMENTS.—Annual Report of the Commissioners of the U. S. General Land Office, with a valuable Appendix; Call of a Convention of Inventors, by the Inventors' National Institute, to have been held in the City of Baltimore, March 6th, 1849, but received too late for notice.

PERUVIAN GUANO

FOR Sale, at Bating Hollow, Long Island, by
JY AZEL DOWNS,

MORSE'S GREY.

THIS celebrated horse will stand the ensuing season at the stable of James Rice in Speigletown, three miles north of the village of Lansingburgh. He is a beautiful dapple grey, 15 1/2 hands high, strongly and finely proportioned, has trotted his mile in 2 minutes and 50 seconds, is a square trotter, and combines first-rate trotting qualities and great powers of endurance, with unsurpassed gentleness and docility. His colts are justly celebrated for speed, bottom, and good temper, and are eagerly sought after in the market, and command prices ranging from \$150 to \$500. The very high reputation of his stock as road horses, and the extraordinary prices they command, renders him by far the most profitable horse to breed from of any in the country. Mares sent from a distance will have such attendance and keeping as the owners desire, and upon the most reasonable terms. The horse will be under the charge of his former owner, Mr. Calvin Morse. Terms, \$10 the season. Insurance to be agreed upon. Communications addressed, J. T. GRANT, P. M. Junction, Rensselaer county, will receive prompt attention. my 3t

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Sept. 1yr.

SHORTHORN DURHAMS AT AUCTION.

THE subscriber being about to dispose of 50 acres of his farm, will offer at public sale 30 head of Shorthorn Durham cattle, (being about one half of his present herd,) on the 13th day of June next, at 11 o'clock in the forenoon, consisting of yearlings, two-year and three-year-old heifers, cows, and 11 young bulls from 10 months to 2½ years old. Great care has been observed, and considerable expense incurred in selecting and breeding this stock, with reference to purity of blood and dairy qualities. The awards of the New-York State Agricultural Society, and the American Institute, of New York, attest the estimation in which this stock is held, whenever it has been exhibited for competition. About eight head of the above cattle are a purchase made from E. P. Prentice, Esq., of Albany, last May, being all of the shorthorns of that gentleman, and the product of his four selected cows, retained at his public sale. The animals have the strain of blood of the herd of Mr. Whitaker, of England, from whom Mr. Prentice made his principal importations. The other part of the lot of young animals partakes largely of the blood of the celebrated herd of Thomas Bates, Esq., of Yorkshire, England, from whom my importations have been derived, and are mostly of the get of my imported bulls, Duke of Wellington, and the premium bull Meteor. The heifers and cows are and will be principally in calf by these bulls.

For the information of southern gentlemen, who desire to introduce Durham stock into that region, and who entertain the opinion that climate is incongenial to its successful propagation there, I here introduce an extract from a letter I received from A. G. Sumner, Esq., editor of the "South Carolinian," dated Columbia, 25th January, 1849.

"The bull you sold Col. Hampton, of this state, gives him great satisfaction. He is a fine animal and I only wish you could see some 20 head of his get now in his yard. They are the most superb yearlings ever bred in the south."

Further particulars and pedigrees of the stock will be issued one month previous to the sale. A credit of 6 to 18 months will be given.

apr.3t

Troy, N. Y., April 1st, 1849.

COMMERCIAL GARDEN AND NURSERY.

PARSONS & CO., at Flushing, near New York. The proprietors of this establishment invite public attention to their large assortment of every desirable variety of Fruit and Ornamental Tree or Shrub. Their importations of everything new in Europe are annually continued, and they offer a very large variety of Ornamental Trees and Shrubs imported expressly for arboreta and pleasure grounds. Their collection of Roses is annually enriched by novelties from abroad, many of which may be found described in their new work on the Rose, recently published. Fruit Trees receive their particular attention, and are propagated under their personal supervision; this care, with their possession of extensive specimen grounds, in which is tested every variety of fruit they cultivate, enables them confidently to guarantee the genuineness of the varieties.

Their care in pruning and cultivation enables them also to send out thrifty and well-formed trees. From their large scale of propagation, they can offer to dealers very liberal discounts, where hundreds or thousands are taken. Orders or inquiries can be addressed to the proprietors at Flushing, near New York, where catalogues will also be furnished. They have established a Branch at Brighton Depot near Boston and by the entire success of their trees transplanted thither have thoroughly proved the superior adaptation of Long-Island Trees to the soil and climate of any part of New England. This they attribute to the perfect purity attained by the wood before frost, which renders the trees suitable for transportation to any latitude.

At the season of transplanting, a salesman will be at their Brighton Branch to furnish those who may prefer obtaining their supply thence.

VIRGINIA LANDS.

THE attention of Northern Farmers who wish to purchase in Fairfax County, Va., is invited particularly to two farms for sale, three miles east from Fairfax Court House, thirteen from Alexandria, and fourteen from the city of Washington. There are no buildings on either tract, but, by following the custom of the country, comfortable and temporary ones can be cheaply built. The soil is well adapted to farming purposes, and there is timber on them, near two sawmills.

These farms would sell in the north, for from \$50 to \$100 per acre, and can be bought here in a more pleasant and healthy climate, one for eight, the other ten dollars per acre, on easy terms, and a good title given.

Further information given, if requested, by T. R. Love, trustee, either personally, or by letter, (postage paid,) directed to Fairfax Court House, Va.

f. f.

H. FULLER.

LAND FOR SALE.

FOR SALE—2,000 acres of land lying in the marl region of Eastern Virginia, and within two to seven miles of the town of Fredericksburg. Apply to LAYTON Y. ATKINS, dec. 1yr Fredericksburg, Va.

THE PLOUGH, THE LOOM, AND THE ANVIL.

THE object of this work is not merely to amuse its readers with accounts of extraordinary crops from single acres, and prodigious weights of bullocks, sheep and hogs. No!—Though the purpose is to keep the reader advised of all *really new and valuable* discoveries and improvements in the implements and animals employed in agriculture, and in the processes and principles of Husbandry in all its various branches, this is not all.

If it were, the single word *PLUGH* might sufficiently indicate that purpose; but the fact is otherwise. By adding to it the *LOOM* and the *ANVIL*, the Editors design at once to indicate that, in their belief, the Plough never has, nor ever can prosper so well, as when the Loom and the Anvil are at work as near to it as the nature of things will admit; and therefore, that the Planter and the Farmer ought heartily to unite to cause the establishment of an efficient and permanent policy, such as will draw around them, not only the Loom and the Anvil, but the Saw, and the Trowel, and the Lapstone; the Coal Heaver and the Iron Monger—in order that those engaged cultivating the soil may save, in the sale of their produce both time and labor, for the enrichment of their lands and themselves.

But this is not the place to go into arguments to prove these positions. We respectfully solicit those to whom our best days have been devoted, to study the subject in the *pages of the work we offer*; for, of all classes of society, this question of *Protection or Free Trade*, is most important to those whose interest it is to multiply prosperous consumers, not rivals in the production of the fruits of Agriculture.

The *Terms* are in advance—\$2 each, where five unite—\$5 for two subscribers, and \$3 for a single one. Sixty-four pages monthly, printed in the best style, and on the best paper. The work is stereotyped, and back numbers can always be supplied.

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J. S. SKINNER & SON, Editors and Publishers, 81 Dock St., Philadelphia.

Recently published, by Harper & Brothers, New York,

MACAULAY'S HISTORY OF ENGLAND

FROM THE ACCESSION OF JAMES II.

Vols. I. & II. 8vo, Muslin, gilt, 75 cents each.

ESTIMATED even by the ordinary means of judgment, Mr. Macaulay's qualifications and opportunities are such as to warrant no ordinary anticipations. By the side of signal political facilities, the minor advantages of rich materials and an almost untroudden field become nearly imperceptible. The domestic and the external life of the British nation are to be distinctly portrayed. A perfect history can never be written; but the approximation has been made by Mr. Macaulay to this consummate ideal. He has, as we before observed, had the double advantage of unusually good guidance and an almost untroudden field.—*London Times*.

A book which will be highly popular as long as the English language lasts. His style is terse and brilliant, and his general views of a far-seeing and impartial character. It is, indeed, delightful reading, but it stands in no need of the praise—the great praise—we are bound to bestow upon it.—*London Literary Gazette*.

Mr. Macaulay frequently rectifies a general prejudice by bringing to his task a calmer and more searching consideration, if not a larger mind, than has yet been brought to the subject. Absolute novelty in the main facts will not, of course, be found, but in those traits that mark the manners of the time, the general reader will be introduced to almost a new world.—*London Spectator*. 12t.

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ROCK SALT.

THIS Salt is as hard as alum, and is the best kind. It comes in large lumps, and is the most *suitable and economical* kind for stock. It may be placed on the ground in the open field where it will be exposed for years to the weather with but little waste. It is the best kind to put in a rack, manger or trough, to be licked by horses, cattle, and sheep, as they may desire. By this means stock never get an excess, or suffer injury from its use. Price \$1 per hundred pounds, for a single barrel, or 75 cents per hundred pounds for larger quantities.

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NEW WORK ON SHEEP.

THE Breed, Management, Structure, and Diseases of the Sheep, with illustrative Engravings and an Appendix. By Henry S. Canfield. Just published, and for sale, price \$1, by C. M. SAXTON, 121 Fulton st

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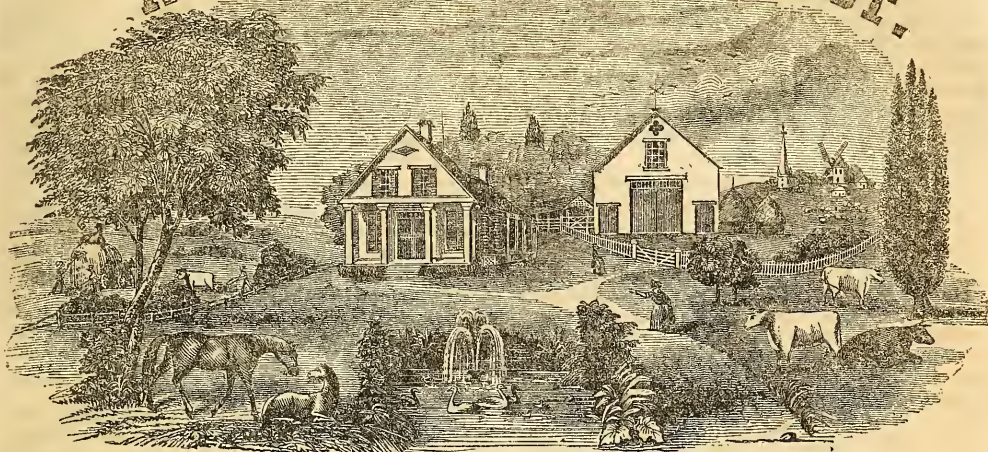
New York, May 5th, 1849.

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AMERICAN AGRICULTURIST.



Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

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NEW YORK, JULY, 1849.

NO. VII.

MESSRS. ALLEN, EDITORS.

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TO POSTMASTERS AND OTHERS.

UPON an examination at this office of the May number of the "American Agriculturist," printed in New York, at 121 Fulton street, it is decided, under the approval of the Postmaster General, that said publication is a newspaper, within the intent and meaning of the 2d and 16th sections of the Post-Office act of Congress, of 3d March, 1845, being in its superficial dimensions not more than 1,900 square inches, and "conveying intelligence of passing events" in that department of the affairs and business of society to which the publication is devoted.

S. R. HOBIE,

First Dpt. P. M. Gen'l.

Post-Office Department, Contract }
Office, May 28th, 1849. }

WORK FOR JULY—NORTH AND WEST.

General Remarks.—A portion of the work omitted to be done in June, or impracticable to be performed from the state of the climate, or the backwardness of the season, as recommended in our last number, may be accomplished early this month, such as *sowing millet and Indian corn for soiling cows, sowing buckwheat, weeding and hoeing field crops, cutting grass and curing hay, cutting and threshing wheat, &c., &c.*

Cutting Bushes and Destroying Weeds.—All useless bushes and briars, growing about your pastures and fields may be cut this month, or grubbed up by the roots and burnt, as well as all filthy and pernicious weeds.

Compost Heaps.—This month and the next two is the proper time for collecting materials for manure. Marsh and swamp mud, peat, the scrapings of roads, lanes, ditches, and fence sides, mold and leaves from the woods, marsh grass, the sweepings of your dwelling, refuse vegetables, the slops and suds of your kitchen, wash room, or chamber, mix-

ed with oyster-shell lime, and the contents of your barnyards, pig pens, and hen houses, comprise the very best elements for a compost manure. It is preferable that the heaps be formed under a shed, or covered with a thick layer of sod or mold.

Draining Wet Lands.—Any wet fields or pastures of stiff clay, that are water-logged during a considerable portion of the year, may be deeply drained during this month and the next two, while the ground is dry. By this means, they will be deprived of their surplus moisture, and converted into friable molds.

Sowing Turnips.—The sowing of the flat varieties of the turnip, intended for the kitchen and the feeding of stock during the winter and spring, should be performed in Canada and the northern parts of the United States by the middle of this month; but in Virginia, Maryland, Pennsylvania, New Jersey, the southern parts of New York, and in the western states, the time may be prolonged until the middle of August, and in some places, even until September. If sown earlier, they are not so tender nor so finely flavored; and if sown later, they will not generally attain a full growth.

It has been proved by long experience in this country, that old sod, well rotted, or newly-cleared land, recently burnt over, produces the largest and the finest-flavored roots. Those who do not possess lands of this description, and design to enter into field culture on a large scale, must render their ground as rich as possible, by the addition of manure. An acre of ground will require from 250 to 400 lbs. of Peruvian guano; 15 to 20 bushels of bone dust; 20 to 30 bushels of wood ashes; or from 500 to 1,000 bushels of fine, well-rotted barnyard manure.

In the cultivation of turnips, there are four things which ought to be carefully observed: 1st, unless the land be "folded" or burnt over, it should be reduced to a finely-pulverized state. This may be accomplished by deep, rough plowing just before the freezing of the ground; 2d, to force forward the young plants into a rough leaf, in order to secure them from the attack of flies. This may be done by soaking the seeds for 36 hours in a solution of 1 lb. of guano to 10 gallons of water; or a gallon of water infused with $\frac{1}{4}$ of an ounce of chloride of lime; 3d, to have the ground clean and free from weeds before the seeds are sown, and watching the growth of weeds afterwards, and eradicating them before they choke the crop; 4th, to keep the ground constantly loose and open about the plants, by stirring it when the weather is dry. The oftener the ground is stirred the better, provided you do not disturb the roots of the plants.

Plowing for Winter Wheat.—As this month advances, it will be time to think of breaking up your ground for sowing winter wheat. Let it be remembered that "deep plowing is one of the farmer's best help." Before wet lands are deeply plowed, however, they should be thoroughly drained.

Topping Indian Corn.—The topping of corn is believed by many to be an idle waste of time, (unless cured and housed for fodder, as is practised in the eastern states,) and injures the quality of the grain.

Kitchen Garden.—Cabbages may be transplanted for late crops. Melons, squashes, and pumpkins

should be carefully hoed, and kept free from weeds. Egg plants, peppers, and tomatoes should be planted out, if not done before. Transplant celery in trenches. Sew cucumbers for pickles; also, Lima and kidney beans, small salad, carrots, turnips, and spinach for fall and winter use. Collect such seed vegetables as have come to maturity.

Fruit Garden and Orchard.—Budding may be performed on all northern fruit trees the latter part of this month. Give to cattle or swine all fruit that is decayed or punctured by insects, to prevent future broods. Keep the ground loose around grapevines and trees.

Flower Garden and Pleasure Grounds.—Bulbous and tuberous roots, such as tulips, hyacinths, &c., can now be taken up, and carefully put away for planting in the fall. Herbaceous flowering plants can be transplanted from the seed bed to the border. Hedges may still be clipped. Keep walks and borders clear of weeds.

WORK FOR JULY, SOUTH.

Working Cotton Fields.—As a general rule, give your cotton crop its last working this month. Some seasons, the weeds are too large to extirpate with the plow without injury, even before the 10th. Keep the fields clean, whether your intention is rotation, in your future crops, or cotton to succeed cotton. It will save labor next year.

Tobacco Fields.—Pay particular attention to your tobacco plants, by topping them, or nipping off the buds with the aid of the finger and thumb nail, as soon as they have from twelve to fourteen leaves, or about knee high. Take care not to destroy the small leaves near the buds; for, if the land be good and the season favorable, the very top leaves will, in a short time, be nearly as large, and ripen quite as soon as the lower ones, whereby, two or four more leaves may be saved; thus obtaining, from sixteen to eighteen leaves instead of twelve or fourteen. As the topping of the plants is essential to promote the growth and equalize the ripening of the leaves, this operation should be commenced the instant the bud shows a disposition to go to seed, and should be followed immediately by removing the suckers as fast as they appear.

Shucking Corn for Fodder.—The blades from early-planted corn may now be stripped for fodder. Let the shuck, or husk, on the ear, first change from a green to a whitish cast; then tie a handful, or so, to itself, and thrust the end of the tie between the ear and stalk. The stalks should not be broken down, as this would require more time to strip off the blades; besides, there will be a gain in the end; for it will sooner be secured from rain. Let the ears be well cured before stacking.

Plowing between Late-planted Corn, Potatoes, &c.—Late corn will need plowing this month, as well as late plantings of potatoes and vines, (squashes,) and the earth drawn towards them with a hoe.

Cutting Millet.—Millet grass should be cut when just beginning to turn, if intended for feeding, and treated in the same manner as oats.

Improving Pastures for Stock.—If your leisure will admit, grub up bushes, cut down saplings, and deaden greens for calf pastures, to be sown in September or October, with rye. Plowing will not be necessary, as the fall of the leaves will cover the ground, and the grain spring up, and give a fine

winter bite. Make artificial pools in your pastures for watering your stock, if there are no natural ones.

Prepare for the Cotton Harvest.—As the cotton-gathering season is rapidly approaching, prepare baskets and sacks for picking, as your leisure will admit, particularly wet or rainy days.

Making and Collecting Manure.—This may be attended to as directed for the north and west.

Kitchen Garden.—Sow beets, carrots, cabbages, endives, shalots, dwarf and pole beans, lettuce, (shaded situation,) mustard, tomatoes, (cover the seed,) melons, cucumbers, squashes, Indian corn, peas, turnips, (in new ground,) radishes, (long and short,) split onions, cauliflower, and roquet. Frequently stir the earth around your plants in dry weather; water them in the evening. Prepare your ground for removing plants that are coming on.

Fruit Garden, Shrubbery, &c.—Preserve white or yellow cling-stone peaches, and wild and domestic plums as soon as ripe. Destroy suckers about trees.

PROFITS OF POULTRY RAISING.

Dr. H. S. Chase, of Woodstock, Vt., makes the following statement in one of our exchanges, on the Management and Profits of Poultry:—On the 27th of March, 1848, I purchased four hens and one cock, and kept them until the 15th of November, when I killed them. During that time, I received three hundred and eighty-six eggs, as the result of their laying. I fed them on grain I purchased—seven pecks of corn at 75 cents per bushel. The account will stand as follows:—

386 eggs, average price 1 cent each,	- -	\$3.86
7 pecks corn at 18½ cents per peck,	\$1.31	
1 peck oats	- - -	0.12— 1.43

Net profit of four hens for less than	
eight months,	- - - \$2.43
Average number of eggs laid by	
each hen,	- - - 96

My family is very small and will account for the limited scale on which I tried the experiment. The fowls had the liberty of a barn in which they were constantly kept, excepting about an hour before sunset, when they were let out. A part of the floor was taken up, however, that they might have constant access to gravel. Corn, lime, and water were kept in vessels, where they could help themselves at any time. I occasionally gave them grass, chickweed, &c., which they ate greedily.

SALE OF MR. VAIL'S SHORTHORNS.

We had the pleasure of being present, June 13th, at the sale of a part of Mr. Vail's fine herd of shorthorn cattle, at his farm, two miles above Troy. There was a very respectable attendance from the neighborhood, the adjoining states, and Canada. The animals were generally in fine condition, and commanded fair, but not extravagant prices. On many of them, the bidding was quite spirited. Three young bulls, each about twenty months old, brought respectively, \$135, \$147.50, and \$150. Of those on the catalogue, 20 head, and these mostly young animals, brought \$2,015, and four calves, from two to seven weeks old, sold for \$142.50, making an aggregate amount of \$2,157.50. This result, though far from flattering, shows

spirit on the part of our farmers, and considering the apathy which has for some time existed on the subject, may be considered a favorable augury for the future. We are glad to notice that five choice, young animals, two bulls and three heifers, were purchased by our enterprising friends, the Messrs. Burgwyn, of Hillside, Hallifax, N. C., whose interest, we trust, will be decidedly promoted, by the improvement of their herds from these thorough breds. Judge Jessup and his friends, from Montrose, Pa., also bought three fine animals, to continue an improvement, already successfully commenced with former importations.

We observed, Mr. Vail did not offer any of his thorough-bred *Bates stock*, though most of those sold had one or more crosses from this importation. We suppose these are held in reserve for future breeding and higher prices, which present appearances renders probable he will hereafter obtain.

DICK'S ANTI-FRICTION CHEESE PRESS.

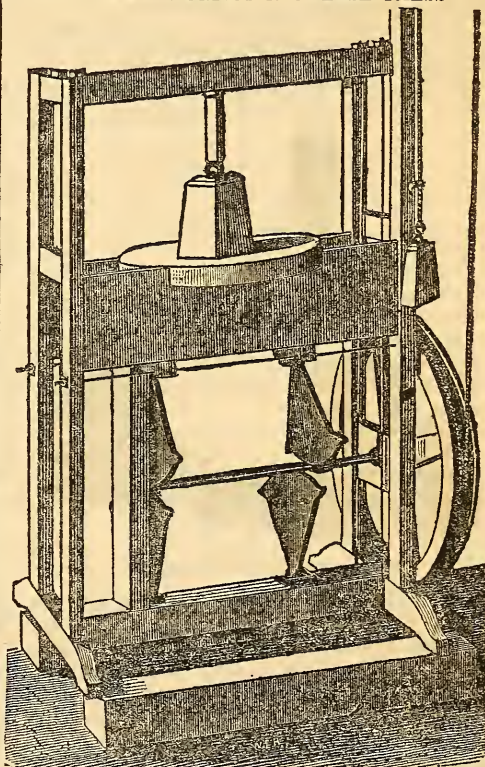


FIG. 47.

THE annexed cut represents Dick's anti-friction power for pressing cheese. By its use, the whey is entirely removed with half the labor usually required. The power may be increased to any extent without danger to the press, as the working portions are made of iron, and consequently are capable of sustaining the force that may be applied.

This implement is a perfect plat-form scale, so that the cheese can be accurately weighed before it is removed—a matter of great convenience and importance to the manufacturer, as well as to the purchaser, who can judge very nearly of its weight, as marked, when taken out of the press.

THE WATER RAM.

This valuable, self-sustaining pump, first invented by Whitehurst and improved by Bolton, both of England, and subsequently brought extensively into notice by Montgolfier, of France, about the middle of the last century, has been suffered to remain in comparative obscurity and neglect, till within the past few years. But the utilitarian spirit of the present age, which is ever busy in securing new inventions, as well as bringing into use such discoveries of a preceding age as are worthy of attention, has seized upon this as one capable of contributing largely to the convenience of mankind. It has recently been much improved in its principles and manner of construction, and is now adapted to the wants of many of our farmers, manufacturers, and other citizens, in supplying water for farm houses, barnyards, irrigating gardens or fields, supplying hydrants, railroad stations, and large establishments, hotels, asylums, &c., with running water. We have given some explanations of it in preceding volumes of our journal, but for the purpose of more particularly describing and bringing it within the comprehension of all our readers, we subjoin a fuller account of it than has heretofore appeared.

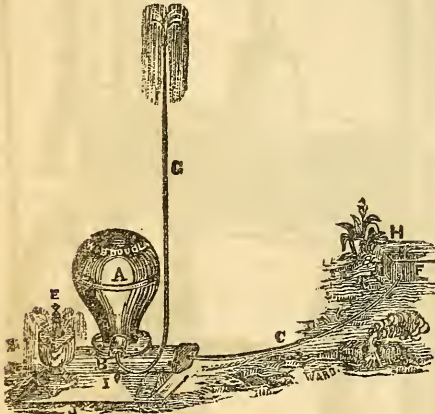


FIG. 48.—THE WATER RAM.

Explanation.—H is the brook, spring, or fountain; C, the supply, or drive pipe; G, the pipe which conveys a part of the water from the drive pipe to the place where wanted; A, the air chamber of the ram; E, top of brass valve; D, water wasting through the valve by which the power of the ram is secured.

The object to be accomplished in its use, is to raise a part of the water from a spring or running stream, to a height above the point from which it is taken, by the power contained in a portion of the same stream which is thus suffered to escape. The relative proportions between the water raised and wasted, is dependent exclusively upon the relative height of the source of supply, and that to which it is required to be raised, and were it not for the friction of the water in the machine, these could be ascertained with the same certainty as the relative distance from the fulcrum of the weight and poise in the steelyards or patent balances.

a general rule, about 20 per cent., or one fifth

of the water may be assumed for the friction of the water and machine, and the remainder of the power may be considered as expended in raising the fluid for use. Thus, if the ram be placed under a head of five feet, six gallons of water, used or wasted as driving power, may be expected to raise four gallons to a height of ten feet; or of ten gallons drawn from the spring, four gallons will be elevated five feet above the spring. If the head remains the same, for six gallons wasted, one gallon will be elevated twenty feet. (a)

The increase of head largely augments the power of the ram. Thus, if the head of water be ten feet, six gallons expended or wasted in power, will raise four gallons twenty feet, or one gallon forty feet above the ram, or the lowest point for the escape of the water. Thus it will be seen, that by depressing the outlet we greatly increase the power of the ram, although we raise the water from a lower point than if the head were lessened. The application of this principle, and a desire to avail ourselves of it to the fullest extent, would induce many to sink their rams to the lowest point possible, so as to secure the greatest quantity of water for use from the smallest supply. But unfortunately, the intractability of matter, frequently interposes insuperable obstacles to the application of principles. We can assign no definite limits to the works of Deity; yet if the usual materials, muscle, tendon, bone, &c., be used for an animal much larger than the mastodon, they would be found inadequate to the object, and the monster's limbs and body must fall, self-crushed from his own superincumbent weight. So, too, in works of art. The immense timber vessels constructed in Quebec, many years since, for conveying their own hulks to England, were found wholly inadequate to encounter the opposing waves, and notwithstanding their great strength, were dashed in pieces, where an ordinary vessel, or an eggshell, would have floated in safety.

In applying these remarks to the water ram, we find that on the principles of its present construction, if the head be much increased beyond ten feet, the brass valve is thrown upward against the metallic cap with so much violence, as soon to wear it to such extent as to require repair, while with a less pressure it may be used for years; and raising the water to a height much exceeding one hundred feet, may require an iron tube of great strength, where, for a less height, lead pipe of ordinary thickness will suffice. It may be that a substitute of gutta percha for one of the metallic parts of the valve, or some other mode of applying the principle, as by a rotatory, or other valve, may hereafter be adopted, which will measurably diminish one of the foregoing objections.

In considering the principle upon which the water ram works, it will readily be perceived, that it requires to be fed directly from a fountain or running stream, where the water is accumulated by a dam, and that it cannot be made to work by simply placing it in a current, however swift or violent this may be. In bringing the water from a considerable distance in pipes, they should be so large as to allow the fluid to move freely in the pipe, so as at all times to supply a constant pressure, undiminished by the accumulated friction of a long passage

through a small pipe. Or if it be objectionable to use a large pipe, let a supply fountain be made near the ram, by emptying the water brought from any distance and raised to its greatest head. The friction is thus limited to what is accumulated in the short distance in its passage from the fountain through the supply pipe. The ram will work under a fall not exceeding eighteen inches, though but a feeble power is acquired under so small a head.

These rams are made entirely of metal; and those recently constructed are of the best materials, not liable to get out of order, and are admirably designed, being light, compact, and portable. They are of several sizes, and by the use of an *adjuster* they can be adapted to streams of different capacities. The most ordinary sizes will suit springs or rivulets, which furnish any quantity of water between four and eighty quarts per minute. Where a larger quantity is required than can be supplied by one of the largest machines, it is better to increase the number of rams, rather than enlarge them on the present principles of construction.

(a) In answer to the inquiries relative to the water ram, in our April number, the following has been received, which is precisely the information the public need. We repeat our request, that such of our intelligent readers, as have water rams in use, will answer the questions, as propounded at p. 121 of the current volume:—

The following is a correct statement of a water ram I have had in successful operation for the last six months:—

1. The fall from the surface of the water in the spring is 4 feet.
2. The quantity of water delivered, per 10 minutes, at my house, is $3\frac{1}{4}$ gallons, and that discharged at the ram 25 gallons. Thus nearly one seventh part of the water is saved.
3. The perpendicular height of the place of delivery above the ram is 19 feet, say 15 feet above the surface of the spring.
4. The length of the pipe leading from the ram to the house is 190 feet.
5. The pipe leading from the ram to the house has three right angles, rounded by curves.
6. The ram is of Douglass' make of a small size.
7. The length of the drive or supply pipe is 60 feet. Its inner diameter one inch.
8. The depth of water in the spring over the drive pipe is six inches.
9. The inner diameter of the pipe, conducting the water from the ram to the house, is three eighths of an inch.

I consider it very essential that the drive or supply pipe should be laid as straight as possible, as in the motion of the water in this pipe consists the power of the ram. V. H. HALLOCK.

North-East Centre, N. Y.,
April 2d, 1849.

SIX QUALITIES OF A FOOL.—By six qualities may a fool be known—anger without cause; speech without profit, change without motive; inquiry without an object; putting trust in a stranger; and wanting capacity to discriminate between a friend and a foe.—*Arab Proverb.*

NEW ARGUMENT IN FAVOR OF WIRE FENCE.

A CORRESPONDENT in the "Massachusetts Ploughman" suggests the expediency of erecting wire fences for the sides of highways, instead of stone and other kinds of fence. The snows, he thinks, would not find sufficient shelter behind it to lodge and form drifts, but would be swept on as though no fence were there, by reason of which no blocking up, nor breaking out roads would often occur, unless caused by other objects.

The suggestion is a good one; and if judiciously carried out, doubtless, those places on all highways, noted for their bleakness, where the winds blow the snow from some distance over the plains, and when any obstruction lies in the way, they are apt to accumulate to an unreasonable depth, would be kept free from drift, and consequently save much inconvenience and expense. Let the experiment be tried.

A COW DEPOT.

We do not know a more promising business in a moderate way, for a person who would be *strictly honest*, than the establishment of a depôt, near this city, for the reception and sale of good milking cows. Scarcely a day passes in the spring of the year, that we are not asked over and over again, "Where can I get a good family cow?"

When applications have been very urgent, we have occasionally undertaken to procure an animal or two; but the result always was infinite trouble, and occasionally disappointment; for we know few things in which there is more cheating. Go to the honest farmer and he will tell the truth about his cows; but generally speaking, when this class of men get good milkers, they know their value too well to be willing to part with them, except at large prices. The only resource, then, for a supply, is among the professional cow dealers, whose character occasionally for lying and cheating, has become more notorious in this community than that of the horse jockies.

The *cow jockies'* tricks are innumerable, but as it would take a volume to relate them in full, we shall content ourselves for the present by giving the detail of a few, only, of such as are more generally practised.

They put a young calf with a cow that is either farrow or that has calved several months, and then sell her for a new milch cow. They do the same, also, to a cow that has the habit of shedding her milk, so that this vice cannot be detected when any one calls to look at her. They let the cow go a day or more without milking, which makes her bag very full, and she then looks like a good milk-er. After this, they only draw away a quart or two at a time, and when you call to look at her, they will tell you she was clean milked the night or morning before, when, perhaps, she had scarcely been touched for thirty-six hours. This is a very painful and dangerous trick to be practised on the poor animal, and deserves the severest reprehension. They will frequently feed the cow more or less with her own milk, which, of course, soon adds largely to the mess she would naturally give. They also feed still-house slops in large quantities. These greatly increase the quantity of the milk, but detract in an equal ratio from its quality.

Still-slop milk, is no better than *slow poison*, especially for infants and children. In addition to these cheatings, some cows will give a large mess of milk for three or four months after calving, and then suddenly dry up. They may be several years older than represented, suckers of their own milk, unruly, kickers, wild, quarrelsome, with a hundred other tricks, which no person can ascertain till he has had them in possession some time and fully tried them.

We regret to say, that some, who ought to be above such trickery, have the meanness to allow their men to sell cows, (and horses too,) which in consequence of various imperfections they do not care to keep; and this without allowing the purchaser to be informed of the animal's faults. We have occasionally heard of amusing instances of the persons employed meeting together for "a trade," and mutually cheating each other, or rather their employers most outrageously. When bear bites bull and bull gores bear in this kind of way, we have but precious little sympathy for them.

THE DOG DISTEMPER.

In looking over the May number of the *Agriculturist*, I find you are asked how to cure the dog distemper. As you seem to think it rather out of your line, and I can't say it is exactly in mine, I will give your friend a prescription which I have seen frequently tried and never known to fail. Here it is, and if it don't cure the dog, I give him the liberty of sending me the hind leg of the next one he loses.

Lay your dog down, and just behind the fore legs on each side and over the lungs, put on about a teaspoonful of spirits of turpentine. This will make the animal almost mad, for a while, but in forty-eight hours, he will be sound and well; so you will thus end the chapter on the dog distemper.

Should this suit you, I may at some future time, give you something else, perhaps on planting, or more probably on gardening, in which I now take the most pleasure.

P. A. WRAY.

Montgomery, Ala., May 14th, 1849.

We shall be happy to hear from our correspondent often, and trust he will continue to favor us with his communications as proposed.

VALUABLE LANDS IN EASTERN VIRGINIA.

THE subscriber has spent several years, in exploring Eastern Virginia, to enable him to give authentic information to all who are seeking new homes, or profitable investment. He believes the region around Petersburg, and on or near the James River, combines more advantages, than any other in the United States. It is generally healthy as has been proved by a number of families from the northern states now settled here. The climate is delightful, the winters being so mild, that plowing is seldom suspended more than two or three weeks during the winter, and stock needs very little protection. Fruits of the best and most valuable sorts ripen here a month earlier than in Pennsylvania, New Jersey, or New York, and can be sent to the northern cities by daily steamboats, in a few hours. Fish and game are also very abundant.

The soil is excellent and susceptible of very high improvement, producing from 50 to 60 bushels of corn and 15 to 35 bushels of wheat per acre. Calcareous marl is superabundant, and is believed to be the cheapest fertilizer known. The undersigned, as agent, has for sale a great number of tracts from 100 to 7,000 acres each, at \$1.50 to \$50 per acre. (See advertisement p. 231.) Some of them with very fine buildings, and highly improved, others with valuable water power and timber of the very best quality for lumber and ship building. A descriptive list, and any desired information, will be freely sent to all who desire it. Letters should be *pre-paid*, addressed to Petersburg, Va.

SAMUEL S. GRISCOM.

May 15, 1849.

REVIEW OF THE APRIL NUMBER OF THE AGRICULTURIST.

The Quantity of Seeds usually Sown to an Acre.—This is a valuable and useful table. Yet I must protest against the "usual quantity" as too small entirely. I have no doubt that the quantity stated in the second column, should be the minimum instead of the maximum, with nearly all the seeds [Belay there, Captain. Read the late English agricultural journals on this subject, then judge whether we are right or not.—Eps.] wheat and oats most particularly so. Much of the wheat that is threshed in a machine is so injured that it will not germinate. The best wheat I ever grew, I sowed three bushels to the acre. Grass seed is almost always sown too sparingly. But still, this table is a very useful one for many of your readers don't know the quantity of seed required, and I advise all of them to preserve it carefully.

Adulteration of Food, No. 10.—And still they come. Is there no end to this catalogue of wickedness? There is one consolation to me, however, about the article of *catchup*, and all its impregnations of salts of copper, &c., and that is, if anybody in this country will be foolish enough to buy and use an imported article of this kind, such stuff is fit for their food. But Mr. Editor, I pray you take the hog out of that olive oil. Faugh! Is it possible that I have been eating lard, while the religion of my ancient house forbids me to eat the meat of that unclean beast? I can forgive the admixture of oil of poppies, or even the lead and zinc, but Oh, Bah! Have I been all these years discarding hog flesh and eating lard? And then to think how much money I have paid for it, because it was put up in bottles and labelled "oil of olives." Your rule for detecting the counterfeit is very good. I should like to try the same upon the counterfeiters over a very "brisk fire."

Agricultural Education in Bavaria.—When shall we be able to write "the agriculture of America has experienced a great improvement in consequence of the system of national education which has been adopted?" It seems that it is made a part of common-school education there, to teach boys the science of agriculture, and the girls domestic economy, cookery, &c. Well! we have a different fashion here. We teach our boys to hate the farm and our girls that it is ungentle to know aught about the kitchen. And we see the effect.

Sugar Cane on Worn-out Cotton Lands.—If all

of the refuse of sugar cane is returned to the soil, will it ever wear out? My idea is, that a crop that never ripens seed, and of such an enormous growth as the sugar cane is, if all the fibrous part of it be returned again to the land and well buried by good tillage, will continue to produce a very long time without wearing it out. How different with cotton. There are 20 or 30 bushels of the oily seed, besides the lint, taken off every year, without any return, and such treatment will wear out any land in the world. So will the process of burning up all the refuse of sugar cane. And these owners of "old cotton lands" must take care that they do not pursue a course with cane that will wear them out for that too.

Agricultural Tour, No. 4.—I only notice this to say to Mr. Robinson "go ahead," you are engaged in a good cause. I hope every body reads your letters with as much satisfaction as I do. I trust you will keep on until the end of your journey at the north, and that you may be spared the cholera in future, as we should not like to part with you yet awhile.

L. F. Allen's Agricultural Address.—How much of good sound doctrine do we find in these few columns. How long must we implore and beg our state and national legislators to give facilities to the farmers' children to get an education suited to their pursuits in life? Probably not until a majority of just such men as Lewis F. Allen shall be sent to make our laws. I pray that such a time will soon arrive. For then shall the sons and the daughters of America rise up and call her blessed. It is a disgrace to this great agricultural country that there is not, with the exception of a few private institutions like Professor Norton's and Mr. Wilkinson's, a school in the country for the education of farmers. How long shall these things be?

Queries in Regard to the Water Ram.—Turn back, reader, to p. 121, and if you have one of these invaluable machines, go to work at once and answer the questions therein asked. By so doing, you will confer a public benefit.

Southern Farming.—Are there farmers at the south? I thought that there existed a deadly feud against grass of all kinds; and yet here is a man trying to raise clover, and that, too, with a view to improve his estate. Why, if his land is worn out, why don't he run off to Texas, or somewhere else, no matter where? So it is "at the west;" where a great many other dunces have gone. If this singular phenomenon of a man, an improver of lands in Georgia, should succeed in getting a stand of clover, let him sow plaster upon it in the form of the letters of that word, and he will see the effect of it as plain as did Dr. Franklin.

Adulteration of Guano.—Is there not a little of that same adulteration a little nearer to us than England? I should like to know who I buy of, and that who should be responsible for damages. And so it seems that there are a few Yankees over the water, also. I wonder if it is not some of the old seed from whence the New-England breed originated?

Herefords vs. Devon and Short-Horn Cattle.—"Dat ish a very clear case, and mine shugment ish dat der blaintiff win," was the decision of a justice of the peace in the good olden time, after

hearing the plaintiff state his case and the testimony on his side. Only wait a bit until Mr. Devon shoves in his long horns, and my Lord Durham brings his beef to market. But as I am a Herefordshireite, I mean to be hard to be convinced.

Value of Bones as a Manure.—"Many families in the United States waste more bones than would serve to manure the wheat they consume?" True, and it is not the dead bones alone, that they waste, but it is those which are covered with flesh—both in man and beast—wasted in the vain effort to make wheat and other grain without giving it the needful food, such as the wasted bones, and a thousand-and-one other good fertilizers they might give the land, if saved, and applied, instead of being thrown away.

Wheat Growing in Texas.—That is a tolerable big western story about wheat that weighs 70 lbs. to the bushel, which is all flour except a very light bran. The Texans need never fear that the country will be overstocked with sugar. For it is an article that the consumption of is increased in a geometrical ratio, as the price decreases. I have no means of knowing how low a price sugar can be made there; but I see your travelling correspondent, Mr. Robinson, says it can be better made at three cents than cotton at six; and if such be the case, I am inclined to think that consumers will continue to be found for it at that price, so that the market will not be so likely to be overstocked as with cotton.

Cost of Manuring an Acre of Corn.—Tell it not to the Wabashers, where the whole product of an acre would not pay for the manure. Let us see—80 bushels of corn at 10 cents, \$8—minus \$5.16. It wont do for that latitude. But that is the kind of country folks move to, when they emigrate "out west." Here, on the Atlantic, where every bushel of corn is worth at least half a dollar, we can afford to pay \$13 an acre for manuring.

Hours of Sleep.—That's a mistake. Human nature requires more than five. A sort of dog nature may live upon that. And if the nature of my children, if I had any, required eleven, I should not think it wicked to give it to them. The next time you need two lines to fill out a column, instead of robbing us of our sleep, use these:—

Let nature have full hours of rest!
Of five, or eight, take which is best.

Sheep Shears.—It is a most singular thing, that, while such an article as the one here represented can be had for fifty cents such miserable things as are to be found on many farms, called sheep shears, should be continued in use by any being, except that old fellow who sheared the hog, and for which purpose they are just fit.

Origin of Soap.—What a pity all family "broils" would not go off as slick as soap. Perhaps they would if

Female Education, were of a different sort. Although I still like to hear the buzz of the spinning wheel, I agree with Amanda, in the spirit of this article—particularly in that "evening dance."

Antidote to Poison.—I wish it was as easy to prescribe a remedy for a poisoned mind as body; for the cases are more common.

Editors' Table.—Upon the subject of "National

Agriculture" and the striking out of the clause for "the organization of an Agricultural Board." you write as though you expected different things of such a set of demagogues and fighting brawlers as of late have disgraced the halls of Congress. I am glad it was stricken out; for, had the office been created, it would have been filled with anything else but a practical agriculturist. But my paper is out and so is the reader's patience I suppose, with the fault finding of your REVIEWER.

FRUIT AT THE SOUTH.

You ask in your May number whether the whortleberry, (*vaccinium*), is found at the south except among the mountains. I answer, that every variety, both of flowering and bearing, is found in the greatest profusion throughout this part of the country. But for abundance, the blackberry takes the precedence of all the smaller fruits in a wild state, and is highly esteemed.

Several varieties of grapes are found in perfection in all our woods; and around every old settlement, spontaneous orchards of fine plums may be found.

The sandy subsoil of the low country is found to be unfavorable to stone fruits other than the plum. But the middle and upper sections of Carolina and Georgia produce fruits of all descriptions equal, if not superior, to those of a more northern latitude. I now have pears, apples, and quinces nearly half grown; but am not able to state what their size will be when matured. What are called baking pears flourish as well as at the north. Strawberries, also, do as well here as anywhere else; but gooseberries, raspberries, and currants will not produce well in the low country. My cherry trees bloom regularly; but five is the greatest number of this delicious fruit that I have been able to gather in one season. As an offset, however, we have the orange, the fig, and the pomegranate in great perfection. The best pine apples I have ever eaten were grown in my garden with but slight protection. Camellias grow and blossom in the gardens here as readily as any other hardy tree.

Reference is made in the same number to the sumach. Carolina produces a great abundance of this article, as well as the far-famed silk grass.

J. S.

Dawfuskie Island, S. C., May 11th, 1849.

SPARE THE BIRDS.

WE copy the following from the London Agricultural Gazette, as the facts therein stated have quite as an important bearing on the the farming community in this country as is England:—I take the liberty of predicting that, in the course of a few years, the farmers of this country will be unable to grow grain crops at all! Many years ago, the coffee plants, in the island of Madagascar, were attacked by the grackle, a well-known bird on the African coast. The grackle is an insect feeder, but having used up the supply, it betook itself in pure necessity to coffee. An edict was speedily issued and carried into effect, for the annihilation of grackles, and every bird on the island was destroyed. All went on very well for a year or two; when lo and behold, the insects and their larvæ, having

the field to themselves, began to make sad havock upon the coffee plants. What was to be done? There was, no alternative but that of bringing back the grackle, which was in due season imported. The coffee planters had, however, gained something by experience, and they resolved to profit by the same; they managed to keep the grackle within bounds, and they well knew that he would do the same by the insects. And they were right. By preserving a *juste-milieu* doctrine between the two, they were enabled to grow coffee.

Now, I apprehend the farmers in the present day are much in the same position as the coffee planters of Madagascar. There has been for some time a system practised in this neighborhood of poisoning birds by wholesale; thousands upon thousands have thus been destroyed, and the system continues. Can anything, I ask, be more absurd and irrational—I had almost said stupid, than this abominable practice? I will say nothing about the beauty and harmony of living nature, I will not whisper a syllable of the goodness and beneficence and wisdom of its Great Author, for I know from experience, that against prejudice in agricultural districts such arguments have no weight; neither will I attempt to picture the horror with which I have witnessed this familiarity with poison spreading like an evil pestilence among the beautiful of God's works. But this I will say, that if the farmers of England run blindly and wilfully into the proved and fatal error of the coffee planters of Madagascar, if they permit the grub and the wireworm to destroy the crops of this country—and this they will do most assuredly if they annihilate insect feeders—then they will not only effect their own ruin, but they will inevitably cause a great national calamity.

THE DOG DISTEMPER AGAIN.

My attention was drawn to a question asked by a subscriber, in the May number of the Agriculturist, who wished you to advise him how to cure dogs of the distemper. As you politely refer the gentleman to some dog physician, I am only too happy to assume the honor of the reference, and administer the desired relief.

The best remedy is the simplest. The distemper in the dog is an inflammation of the lungs, and the membranes which surround them. It is something akin to consumption in the human system. The stomach of the animal, in distemper, is always oppressed with a large quantity of mucus, which keeps the lungs, membranes, &c., in a state of constant irritation. Hence the severe cough which accompanies this disease—the cause removed, of course, the effect ceases; and the patient recovers. Take a handful of fine table salt; hold open the dog's mouth, pour it down his throat, and hold his jaws together until the salt is all dissolved and swallowed. In about a minute, he will vomit, and throw up great quantities of mucus, and in many cases, will throw up a little bladder, about the size of a pigeon's egg, which he should by no means be allowed to swallow again. The salt makes the dog very sick, but it only lasts a few minutes and is not in any way dangerous; this process should be repeated every other day, for a week, diminish-

ing the dose at each time. This never injures the constitution of the animal, as sulphur most certainly will, if he is exposed to wet weather. Salt is the remedy which I always use with my pointers, and it never fails.

A CONSTANT READER.

Clinton, La., May 19th, 1849.

BOGARDUS' HORSE POWERS.

We give below a cut of Bogardus' horse powers; they are made entirely of iron, excepting the lever by which they are moved. They are made for one or more horses, and are an efficient implement with as little friction as compatible with this style of machine; and they are not liable to get out of order. They can be adapted to any position of the

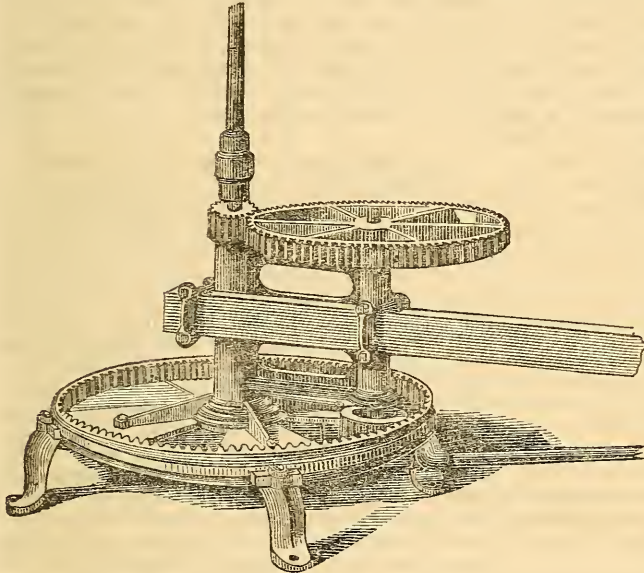


FIG. 49.—BOGARDUS' HORSE POWER.

machinery to be propelled, by extending a horizontal or vertical shaft, or by a band as may be preferred.

METHOD OF EXCLUDING DRONES FROM THE HIVE.—The ancient Greeks had an ingenious method of excluding drones from the hive. It was observed that these gentlemen, (the drones,) though in no way inclined to work, would yet occasionally, on very fine days, go abroad for exercise, rushing forth in squadrons, mounting aloft into the air, and there wheeling, sporting, and manœuvring in the sun. Taking advantage of their absence, they spread a fine net over the bee entrances, the meshes of which were large enough to admit the workers, but not the drones. By this means, the latter were excluded and destroyed.

HOGS SLAUGHTERED WEST.—The aggregate number of hogs killed in the west, for the season 1848–49, is stated as at least 1,500,000, of which 27,560 were killed on the Mississippi, 72,200 on the Missouri, and 219,000 on the Illinois; the remainder in the states of Ohio, Kentucky, and Indiana.

SUMMER MANAGEMENT OF SHEEP.—No. 1.

Storing Wool.—Wool should be stored in a clean, tight, dry room. It is better that it should be an upper room, for reasons presently to be given, and it should be plastered, to exclude dust, vermin, insects, &c. Rats and mice love to build their nests in it, to which they will carry grain chaff and other substances, injuring much wool—and it is singular that, if accessible to the common bumble bee, numbers of their nests will be found in it. A north and pretty strong light is preferable for a wool room.

When the wool tyer removes each fleece from the trough, he places it in a long, high basket, capable of holding a dozen fleeces, and it is immediately carried to the wool room—or he piles it on the clean floor in the inclosure in which his table stands, to be subsequently carried away. In either case, the fleeces are not thrown down promiscuously, which injures their shape, but are laid regularly one above another, on their sides. In the wool room, it is laid in the same way in smooth, straight north and south rows, (supposing the light to be let in from the north,) with alleys between, in which a man can pass to inspect the wool. The rows ought not, perhaps, to be more than two deep, so that the end of every fleece can be examined, but as it cannot be piled up more than about four fleeces high in this way, without liability of falling, it is customary to make the rows three or four fleeces deep—laying the lower ones a little wide, so that the pile may slightly recede as it goes up. In this way, they may be piled six fleeces high. Where the character of the flock is known, or that of the seller relied on, it makes little difference.

It is considered fairest to pile the fleeces without any discrimination as to quality, in the wool room.

Hoppling, Clogging, &c.—Hoppling is done by sowing the ends of a leathern strap, (broad at extremities so that it will not cut into the flesh,) to a fore and hind leg, just above the pastern joints—leaving the legs at about the natural distance apart. Clogging is fastening a billet of wood to the fore leg by a leather strap. Yoking is fastening two rams two or three feet apart, by bows around their necks, inserted in a light piece of timber, say two by three inches in size. Poking is done by inserting a bow in a short bit of light timber, into which bit, (worn on the under side of the neck,) a rod is inserted which projects a couple of feet in front of the sheep. These, and similar devices, to prevent rams scaling fences, may be employed as a last resort, by those improvident farmers who prefer by such troublesome, injurious, and at best, insecure means, to guard against that viciousness which they might so much more easily have prevented from being acquired.

Fences.—Poor fences will teach ewes and wethers to jump, as well as rams, and for a jumping flock there is no remedy but immoderately high

fences, or extirpation. One jumper will soon teach the trick to a whole flock, and if one by chance is bought in, it should be immediately hopped or killed. The last is by far the surest and safest remedy.

Salt.—Salt, in my judgment, is indispensable to the health of sheep, particularly in the summer—and I know not a flock master among the hundreds, nay, thousands with whom I am acquainted, who differs with me in this opinion. It is common to give it once a week while the sheep are at grass.

It is still better to give them free access to salt at all times, by keeping it in a covered box, open on one side. A large hollow log, with holes cut along the side, for the insertion of the heads of the sheep, will make a respectable substitute. A sheep having free access to salt, at all times, will never eat too much, and it will take its supply when and in what quantities nature demands, instead of eating voraciously at stated periods, as intermediate abstinence will stimulate it to do. When fed but once a week, it is better to have a stated day, so that it will not be forgotten, and it is well to lay the salt on flat stones, though if laid in little handfuls on the grass, very little will be lost.

Tar.—This is supposed by many to form a very healthful condiment for sheep. The nose of the sheep is smeared with it, and it is licked and swallowed as the natural heat of the flesh, or that of the weather, causes it to trickle down over the nostrils and lips. Others, suffering the flock to get unusually salt hungry, place tar upon flat stones, or in troughs, and then scatter salt on it, so that both shall be consumed together. Applied to the nose, in the nature of a cataplasm, I have no doubt that it is advantageous in catarrhs—and put on the same place, at the proper periods, it may perhaps, by its odor, repel the visitations of the fly, (*Estris ovis*.) the eggs of which produce the “grub in the head.” As a *medicine*, it may be valuable, and even as a *detergent*, in the case specified, but as a condiment simply for a perfectly healthy animal, I confess I have no confidence in its utility.

Water.—Water is not indispensable in the summer pastures, the dews and the succulence of the feed answering as a substitute. But my impression is decided that free access to water is advantageous to sheep, particularly to those having lambs; and I should consider it a matter of importance on a sheep farm, to arrange the pastures, if practicable, so as to bring water into each of them.

Shade.—No one who has observed with what eagerness sheep seek shade in hot weather, and how they pant and apparently suffer when a hot sun is pouring down on their nearly naked bodies, will doubt that, both as a matter of humanity and utility, they should be provided, during the hot summer months, with a better shelter than that afforded by a common rail fence. Forest trees are the most natural and best shades, and it is as contrary to utility as it is to good taste to strip them entirely from the sheep walks. A strip of stone wall or close board fence on the south and west sides of the pasture, will form a passable substitute for trees. But in the absence of all these, and of buildings of any kind, a shade can be cheaply constructed of poles and brush, in the same manner

as the sheds of the same materials for winter shelter.

Cold Storms, after Shearing.—These sometimes destroy sheep, in this latitude, soon after shearing—particularly the delicate Saxons. I have known forty or fifty perish out of a single flock, from one night's exposure. The remedy, or rather the preventive, is to house them, or in default of the necessary fixtures to effect this, to drive them into dense forests. I presume, however, this would be a calamity of rare occurrence in the “sunny south.”

Sun Scald.—Might be more common. When sheep are sheared close in very hot weather—have no shade in their pastures—and particularly where they are driven immediately considerable distance or rapidly, over burning and dusty roads, their backs are so scorched by the sun that the wool comes off. It is not common, however here. You may see one such in a flock of a hundred. Let alone, the matter is not a serious one, but the application of refuse lard to the back will accelerate the cure, and the starting of the wool.—*Randall's Sheep Husbandry in the South.*

CLOTHES AND WOOL-DRYING MACHINE.

A MACHINE has been in use for some time, in England, but little larger than a good sized tub, in which clothes of any kind, wool, or other materials may be placed, and, after a few turns of the machine, are rendered almost dry. The following description of it has been handed us by one of our correspondents, who has seen it in operation. None have been brought to this country to our knowledge; but from their great saving of time, labor &c., &c, we think the improvement a valuable one. We should be happy to aid any of our friends in procuring one, should they wish it:—

Within the case, are two open or spare boxes, revolving on an axis, into which the clothes are thrown, *dripping wet*, from the wash tub, whether of linen, cotton, or woollen, whether wearing apparel, house linen, blankets, counterpanes, or what not; when by the working of the machine five or six minutes, which requires very little strength, a current of atmospheric air is produced, and a centrifugal pressure created sufficiently to discharge the water so completely from the articles in these boxes, that fifteen minutes exposure to the air renders them fit for the ironing board!

On further inquiry of those who had it in use, I found it gave universal satisfaction; indeed, the saving to the clothing and the economy in fuel, (where drying closets were in use,) is so great, that not only large public establishments and private families have adopted them, but laundresses, in the vicinity of cities and large towns are willing to meet the expense of purchasing these machines; and they feel amply paid for the outlay, by the saving they make in time, labor, and fuel.

Machines on a large scale are got up for manufacturers, as by their use, all kinds of scoured wool, woollen clothes, baizes, flannels, blankets, &c. &c., can be dried in the short space of six minutes, leaving only sufficient moisture to work and finish off the goods. Carpet makers and calico printers, also, find these machines of the greatest value in expediting their work.

THE WHORTLEBERRY AND OTHER TREES AT THE SOUTH.

IN the number of the Agriculturist for the current month, p. 155, you say; "We would be obliged if any of our southern friends would inform us whether the whortleberry, (*vaccinium*), is found at the south except among the mountains." It is found abundantly in the forests in a large portion of Louisiana and Mississippi. We have no mountains properly so called in these states. The whortleberry, however, is most abundant in the more hilly or broken parts of the country even though the hills are of very little elevation. Two species of the *vaccinium* are native and now growing in my yard.

I have also about my house an insulated forest of about ten acres in which are several hundred trees embracing more than sixty species of native growth. Besides these, I have planted many other natives of our forests as well as exotics. Among the natives, in my little forest, are seven species of oak, the sycamore, magnolia, beech, holly, maple, ash, pine, tulip tree, cotton wood, sassafras, red mulberry, red, slippery, and winged elms, black walnut, two species of hickory nut, chinquapin, iron wood, horn beam, black or blue gum, tupelo, sweet gum, dogwood, hoptea, virgilia, wild cherry, &c. On other lands, I have many other native forest trees of which I intend to remove specimens to my residence. Having established a school for young ladies in this grove, I have given it the name of "Newton Place."

In this grove, are some magnificent forest trees, far surpassing in size, beauty, and grandeur, anything I have seen in your northern climate. We have here, also, a number of native vines growing luxuriantly; among them, two species of grape and the far-famed muscadine, the yellow jessamine, trumpet creeper, ratan, (*Zizyphus volubilis*), cornucopia, &c., &c. Of the most highly-prized exotics is one purchased of you, over two years ago; namely, the *Paulownia imperialis*.

D. L. PHARES.

Whitesville, Miss., May 14th, 1849.

ON BREEDING.—No. 2.

THE race horse, certainly the noblest creature the world has seen, is now said by some English writers to be degenerating, and it is proposed to go back and begin all over again, by breeding from new importations of the hardy Arabian.

The same it is feared will occur with the improved shorthorns. Yet the question will very naturally be asked, how is it that the wild cattle of Chillingham Park have been preserved unmixed for so many hundred years? The most obvious and readiest reply is, that they have been left in a wild state, that nature has had uncontrolled authority in their preservation and continuance, without the interference of man, to improve, or alter, or modify. But if their owners through all this range of years, had at any time been enthusiastic in the breeding of cattle, or had filled themselves with a conceit, that they possessed the means for improvement, there is little doubt that not one of them would be alive at this time. Another reason for their being still preserved, is, that animals in a wild state, generally, if not invariably, destroy all the feeble or sickly, or else they die in a more kindly manner,

by being left to perish through inability to procure food, or in other words, that in a perfectly natural state, none but the hardy and vigorous animal can live. But where animals, no matter how strong or hardy originally, are bred with a certain object, as the race horse, for speed, the one kind of cattle for the butcher, another for the dairy, they inevitably run out. They become an artificial creature, and can only be preserved by unnatural means, all of which, after a certain time fail, and the whole breed so made up, gradually but certainly disappears.

Breeding in-and-in, then, as a system, cannot be indefinitely continued. A breeder up to a certain point, may, by adopting it, produce the most superior, even the most perfect animals. By its means, Bakewell gave to England the longhorns, the most beautiful animals of their day, and Colling the more beautiful shorthorns. But after a time, it becomes a mere moving in a circle, you introduce by it, all the finest points, you remove by it every imperfection, the breeder gains through it the object he had in view, but by persisting in it, you return to your stock, all the infirmities, and imperfections of which you had rid yourself, and bring back constitutional delicacy and disease.

A good deal in the art of breeding, even if we give full credit to the judgment, experience, and penetration of man, is still due to fortune. In all our estimates of human skill and power, we must not forget this. No human being, however remarkable in talent or energy, has gone through or completely succeeded in any undertaking, without feeling and acknowledging its strong and happy assistance. In this particular act, it happens that two extraordinary instances of its intervention and its aid, stand most prominent. It is said that there is not in England, at this present day, nor probably in this country, a single race horse of any character, which is not descended from the Godolphin Arabian. From the most authentic accounts of this animal, it is probable, and is now generally conceded that he was not an Arabian, but a Barb; also that he was never intended for breeding purposes, but kept as a teaser to a race horse of much celebrity, called Hobgoblin, and that his being made the sire of generations of noble animals was accidental, the mere trick of a stud groom. Nor was he even a handsome horse, or possessing such points as fitted him for the high duties of a breeder of race horses, at least, this was the opinion of his owner, and probably of other judges of that day. Yet as an evidence of how erroneous and imperfect man's judgment may be, though aided by long experience, this rejected brute has done more for the improvement of the horse, than the most anxious and nicest exercise of tact and skill has ever, or could ever have done.

The bull Hubback, the reputed founder of the shorthorns, was discovered accidentally, by Colling, and though his name is not so noted, nor the part he has played so important as that of the Godolphin Arabian, yet, in usefulness, there is no comparison. The splendid results and the fiery passions, engaged in horse racing, overbear, in the eye of the world, the gentle, unostentatious, and modest utility of animals known and admired chiefly by the agriculturists; but in the career and progress of nations, if it were asked which added the most to their productive wealth, which aided

and advanced the most their real and substantial interests, or which is of more importance than all, which is the least likely to corrupt the morals of a people, the spirit of gambling, that goes with the excitement of the race course, or the plainer and more serious pursuits of the plow, there could be no hesitation in deciding where the higher merit rested. Whoever undertakes the breeding of cattle, in this country, must look both to his soil and his climate. There are portions of the United States where neither of these seem suited to the mighty massive Durhams. A thin, sterile soil with six months of extreme heat and cold, three months of extreme heat and only three of moderate weather, do not form an aggregate of advantages in favor of that breed of animals. In such circumstances, a lighter and smaller beast would be the most profitable, such as they have already in New England, but bred with more care, and nurtured with more tenderness. This stock, now long established, crossed with Devons, of the pure kind, would probably give a better animal than the same crossed with the Durhams; though we see very little reason for crossing at all, if the young are only well fed and well bred. The country the best calculated for the raising of Durhams, is the west or portions of it. The natural green grass of parts of Pennsylvania will also do extremely well, and their early maturity, with the ready access to a market, gives peculiar advantages to this region. But there are not enough of them, to make them sufficiently cheap, for the farmer to raise for the butcher, and the cheaper lands of the west, render it a not very profitable enterprise. Still, some one must breed cattle, and whether it be done by a western grazier who has as much land and as large herds and flocks as a patriarch of old, or in a more economical manner, and on a smaller scale, by a farmer of the eastern states, there is no reason why they should not aim to have a perfect animal. All will depend on the spirit of the individual, at least much more than on the market value of the creature.

A. L. ELWYN.

Philadelphia, Nov., 1848.

PREPARATION OF GRAIN AND FLOUR FOR EXPORTATION.

ONE of the inspectors of the city of New York returned 218,679 barrels of flour, in 1847, as sour and musty. The aggregate of grain and flour annually damaged throughout the United States, by want of proper precaution, in preparing and putting up for market, cannot be less than \$3,000,000 to \$4,000,000; and in the year before mentioned, when we exported largely to Europe, it probably exceeded \$6,000,000. That "hastemakes waste," in this item of our national products, is quite certain. A little more pains in the proper disposal of the grain, would save the labor of reproducing much of what has once been grown.

Kiln-drying, or drying by steam, admitted through pipes, around which the grain or flour is made to pass, is an effectual mode of driving off the superfluous moisture, which, if allowed to remain, will, under many circumstances, as of heat and moisture combined, produce must, or souring. Many applications of heat, have, from time to time, been applied, but none have been generally adopted.

The application of steam, we think best calculated to effect the purpose, and avoid the objection of scorching. This is an object well worthy the closest attention of American agriculturists, millers, and merchants. In addition to its other advantages, the weevil, which is very destructive among grain at the south, has been frequently avoided when the grain has been kiln-dried.

COTTON MANUFACTURING AT THE SOUTH.

Answer to M. W. Philips, of Mississippi.—If no other person has done it, I offer the following answer to Dr. Philips' inquiry about a cotton factory, &c., in the March number of the Agriculturist.

First, the size of Building.—The Graniteville Factory, in Edgefield District, S. C., 12 miles north of Hamburg, contains 9,245 spindles and 300 looms, and all the machinery of the very best kind and modern improvements, for making No. 14 sheetings and drillings. The building is of solid blue granite, 350 feet long and 50 feet wide, two stories high, with a good room in the attic, equal to half a floor or more. The picker room is also stone, separate from main building, two stories high. Store houses, offices, two churches, a school house, 83 dwellings of wood, and all the fixings of the neatest kind, with two dams, and races a mile long, 40 feet head, two turbine wheels, a saw and grist mill, a hotel, and 9,000 acres of land, all cost \$300,000, or \$32.44 for each spindle. The mills in Lowell, cost from \$35 to \$38 a spindle. A steam mill at Salem, Mass, cost \$21 a spindle for 30,000 spindles, not including dwellings for operatives.

The details of cost at Graniteville are as follows:—

Real estate,	\$12,222.35
Canals and dams,	9,505.46
Factory buildings,	60,144.57
Water wheels and flumes,	6,949.12
Shafting and gearing,	12,663.99
Machinery,	121,754.03
Fire and steam apparatus,	5,947.65
Starting up mill, and furniture,	3,587.96
Saw mill, machine shop, &c.,	9,079.86
Cord clothing,	3,010.00
Dwelling houses,	43,293.18
Streets and fences,	1,998.80
Contingencies not yet carried to proper account,	3,307.49
Margin left for future expenditures,	6,539.57

Total, \$300,000.00

The building is warmed by steam pipes as all should be.

There is a new factory at Augusta, Georgia, containing about the same amount of machinery, 208 feet long, 50 wide, and five stories high. The stairways of each are in projecting towers in front. Both of these are operated with white laborers, natives to the soil. These will consume ten bales a day and turn out 10 to 12,000 yards, of 30 and 36-inch sheetings and drillings. Cotton costs now 6½ cents delivered. Average wages of all the men, women, and children, at Graniteville, in April last, \$3.05 a week. Most of work done by the piece. Number of hands, 300.

At Vacluse, on the same stream, the number of hands 94. Average wages, through last year 37.85 cents per day of 12 hours work. Number of spindles 2,280 and 43 looms, making 8-ounce Osnaburg and bundle yarn. Hands employed, 11 men, 50 to 60 girls from 10 to 25 years, and balance boys, from 12 to 20 years of age. Capital in the factory and buildings and lands, counted at cost, on a second-hand purchase by General Jones, the present owner, \$30,000 and floating capital \$20,000. The building is granite

40 feet by 80, four stories high, with a room in roof equal to three fourths of a story, and stairway in projecting tower. The picking room separate, 20 feet by 40. The machinery not of most modern kind, as some of it has been in use 17 years. In 1845, the wheel run 253½ days, and used 367,404 lbs. of cotton, excluding waste, costing 6 cents 7.358 mills per pound, making \$24,758.81, and made 71,615 lbs. of yarn that netted 14 cents per pound, and 295,789 lbs. of cloth, or 591-579½ yards that netted 7 cents per yard. The details of cost of this was, for 6,895½ days' picking, &c., \$2,268.39, or 6.175 mills per pound.

	mills per lb.	
7,922 days' spinning,	6.933	\$2,547.37
2,246 " spooling & warping	1.406	415.98
1,450½ " dressing,	2.131	630.24
569 " drawing in,	0.633	187.30
4,937½ " weavings,	9.260	2,768.64
562 " trimming & baling,	1.164	344.34
1,114 " hanking and bunn-		
dling yarn,	4.953	354.75
810½ " machinist, watch, roller coverer,		
and all extra work, 1.559 mills per lb.,		572.90
making the cost of labor put upon cloth, to		
2 cents 9.361 mills per lb., or 1 cent 4.651		
mills per yard, and the cost of labor on yarn		
1 cent 9.62 mills per lb., to which add as		
above, cost of cotton, and 743 gallons of oil		
equal to 2.471 mills per lb. of cotton,		908.03
Contingencies, which include materials,		
commissions, insurance upon \$20,000, &c.,		
and is equal to 1 cent 1.305 mills per lb. of		
cotton,		4,153.39
Transportation on cotton yarn and cloth		
3.556 mills per lb.,		1,416.73
73 barrels of flour for sizing, chargeable		
to cost of cloth 1.092 mills per lb.,		323.20
48 reams of paper, chargeable to cost of		
yarn, 1.156 mills per lb.		\$2.50
Interest on \$50,000 capital, 7 per cent,		
9,526 mills per lb. of cot.,		3,500.00
Net profits above all cost and interest as		
above,		7,526.51
Total cost of cloth per lb., 12 cents 4.999		
mills, or 6 cents 2.499 mills per yard.		
Total cost of yarn, 11 cents 5.322 mills per lb.		

One fourth of the cotton used was short staple Nankin, and made into striped Osnaburgs. All cloth 31 inches wide, 8 oz. to the yard. Average daily consumption of cotton, 1,295 lbs.

All the hands, except a few men who are unmarried, and all that can, work by the piece. Families all live in factory houses, rent free, and cultivate all the land they choose to fence. General Jones has been here nine years, and no case of fever among hands. The mill stopt a few days last year on account of pneumonia among the operatives. The General has tried both and gives preference to white labor. At Saluda Factory, near Columbia, all operatives are black. DeKalb Factory, at Camden, has 1,680 spindles and 40 looms, 93 hands; two thirds white and one third black. Average 1,200 lbs. of yarn and cloth a day, one third yarn and two thirds 8-ounce Osnaburgs. Used last year 353,681 lbs. cotton and made 90,145 lbs of yarn and 234,055 lbs. of cloth—running mill 285½ days of 11½ hours. Size of building 125 feet by 29, four stories. Average wages of hired blacks, 15½ cents a day. They board themselves. Wages of whites, 13 to 26 cents, and weavers by the piece—18 cents a cut of 33 yards, and average about 3 cuts a day. Weavers' wages of the last month from \$9.90 to \$15 per week.

Marlborough Factory, near Bennetville, S. C., owned by Captain M. Townsend, runs 1,000 spindles on coarse yarns, Nos. 5 to 10, with 35 hands from 10

years old up, averaging \$1.90 a week, including 5 slaves counted at \$5 a month—consumes 500 bales a year, at 5 cents a pound, and made last year 162,500 lbs. yarn. Average value at home, 12½ cents per lb. Cost of production in labor 2½ to 2½ cents per lb. Capital \$20,000 in mill and \$5,000 floating. Sells about a third of yarn at home, and balance in New York. Hands all work by the day and week, and included in average cost is a machinist now repairing, whose wages are \$9 a week.

SOLON ROBINSON.

Raleigh, N. C., May 6th, 1849.

ADULTERATION OF FOOD.—NO. 13.

Spiritous Liquors.—Under this head may be included all the inflammable and intoxicating liquids obtained by distillation, and employed as beverages; as brandy, gin, rum, whiskey, &c., being unfortunately in such common use, and bearing so high a price, that they are peculiarly adapted for the purposes of adulteration, which may be of various kinds; but the most general is that by the addition of water. Were this the only sophistication practised, however, from obvious reasons, it would be productive of good rather than harm; yet, in truth, it has the very opposite effect; for, in order to disguise the dilution, it is necessary to add some substance, capable, by its pungency or other similar property, of completely counteracting the addition of water; such, for instance, as capsicums, Guinea pepper, oil of turpentine, ammonia, &c., all of which when taken in combination with the spirit, very injuriously effect the stomach.

The common brandy of commerce, it is probably known to most of our readers, is obtained by the distillation of wine. The quality of the brandy varies with that of the wine from which it has been distilled. Every soil, every climate, every kind of grape affords a wine possessing some peculiarity confined to itself, and this wine, on distillation produces an article possessing like distinctions. When first distilled, brandy is colorless, and acquires a yellowish tint from the wood of the casks in which state it is known and sold as "pale" or "white" brandy. The deep color that it often possesses, is imparted to it by adding a little spirit coloring, (burnt sugar or caramel,) and occasionally a small quantity of red sanders wood, and is intended to imitate the appearance acquired by brandy from great age, when kept in wood. The natural color, however, which this spirit receives from the cask, no matter how long it may have been in it, never exceeds an amber tint. The brandies most esteemed are imported from France, and are those of Cognac and Armagnac, the preference being generally given to the former. Those of Rochelle and Bordeaux may be reckoned next in quality, while those obtained from Portugal, Spain, and Italy are very inferior. The *eau de vie supérieure*, or Cognac brandy, is generally obtained from pale white wines by careful distillation, and is remarkable for its superior flavor. When kept in glass or stone bottles, it is called "white Cognac brandy."

New brandies, as well as rum, are flavored with oak sawdust and a tincture of raisin stones to impart the "ripe taste" which such spirits acquire by being long kept in an oaken cask. It is a common practice, also, to employ spirit distilled from raisin wine, which has become partially sour, for the

purpose of flavoring raw-grain spirits to imitate brandy. The following is a method of "making up" brandy for retail:—

"To ten puncheons of brandy, (1081 gallons,) add flavored raisin spirit, 118 gallons; tincture of grains of Paradise, four gallons; cherry-laurel water, 2 gallons; spirit of almond cakes, 2 gallons. Add, also, 10 handfuls of oak sawdust, and give it 'complexion' with burnt sugar."

Holland spirit, *gin*, or *geneva*, which is distilled from unmalted rye by a peculiar method, and flavored with juniper berries, and sometimes by the addition of a little pure Strasburg turpentine, and a handful or two of hops, is usually adulterated with water. Sugar is also added, and a mixture composed of alum, carbonate of potash, almond oil, sulphuric acid, and spirit of wine. This compound not only fines the gin, but communicates to it the property of "beading." A creaminess and smoothness to the palate is given to gin by age, or the addition of a little sugar, and a small quantity of caustic potash is sometimes added to it, so as to impart to it a biting taste.

British gin is usually made of clean, grain spirit, flavored, as modifying ingredients, with oil of turpentine, bitter almonds, creosote, common salt, and sometimes with sliced lemons, oil of juniper, and other aromatic substances. The turpentine conveys a plain gin flavor; creosote imparts a certain degree of smokiness; lemon and other aromatics, a rich, creamy fullness, which a generality of gin drinkers admire.

Rum, an ardent spirit obtained by distillation from the fermented skimmings of sugar boilers, (syrup skum,) the drippings of the sugar pots and casks, (molasses,) the washings of the boilers, and occasionally the juice of the sugar cane, is subject to but few adulterations other than water, and the admixture of inferior kinds. Sometimes, however, sliced pine apples are added to rums of ordinary qualities, with the view of imparting to them the flavor of Jamaica "pine-apple rum."

Dilute alcohol, obtained from the fermented wort of malt or grains, is generally known under the name of *whiskey*. That extracted from malt is the most esteemed. The inferior qualities of this spirit are prepared from barley, oats, rye, or Indian corn, a small portion of which is malted; or from potatoes mashed with barley malt, the resulting wash being carelessly fermented and distilled, and purposely suffered to burn, in order to impart the peculiar empyreumatic or smoky flavor, which accidentally attends the manufacture of the famous "mountain dew" of Ireland, and is so much relished by amateur whiskey drinkers.

The malt whiskey, sold as such, of the principal Scotch and Irish distilleries, is fully equal in quality, to London gin, from which it merely differs in flavor. The peculiar flavor of Scotch whiskey, may be nicely imitated by adding a few drops of pure creosote to two or three gallons of good English gin; and the imitation will be still more perfect, if the liquor be kept for some months before drinking it.

We will conclude this series, by another extract from the narration of the same old broken-down groggeller mentioned in our last.

"What have you got to say agin blue ruin, old

fellow?" demanded a knacker, who was regaling himself with a glass of gin and water.

"Blue ruin—gin!" cried the old man. "Ah! I can tell you something about that, too. Oil of vitriol is the chief ingredient. It has the pungency and smell of gin. When you take the cork out of a bottle of pure gin, it won't make your eyes water; but the oil of vitriol will. Ha! ha! There's a test for you. Try it. Oil of turpentine, sulphuric ether, and oil of almonds are used to conceal the vitriol in the 'made up' gin. What is called 'fine cordial gin' is the most adulterated of all. It is concocted expressly for dram drinkers, Ha! ha!"

"Rum, I should think, is the best of all the spirits," said a buffer.

"Because you like it best, perhaps," exclaimed the old man. "Ha! ha! You don't know that the 'fine Jamaica rum' is nothing else but the vile, low-priced Leward-Island rum, which is in itself a stomach-burning fire water of the deadliest quality, and which is mixed by the publican with cherry-laurel water and 'devil'?"

"Devil? What's that?" asked the knacker.

"Aye, what is it indeed? It is but Chili pols infused in oil of vitriol. That's all."

"Now for the 'best Cognac brandy,'" continued the old man. "Do you think half the brandy sold under that name ever saw France?—ever crossed the sea? Not it! Aqua ammonia, saffron, mace, extract of almond cake, cherry-laurel water, terra Japonica, and spirits of nitre make up the brandy, when the domestic distilled spirit has been well deluged with water. That's your brandy! Ha! ha! And now, I dare say, you wonder why I drink beer or spirits at all. It is this: Because I am old and miserable; because I'm poor and wretched; because I must kill care somehow or another; and therefore I take daily doses of these slow poisons."

ROUGH NOTES BY THE WAY.—No. 9.

I LEARNED from a gentleman and his lady, in New Jersey, where I stopped to spend a short time last summer, the following interesting fact. "While doing business in the city of New York, in 1836," said he, "my wife said to me, one day, instead of travelling in the summer, why not buy a farm and let me cultivate it, and you come out when your business will permit?" He took her at her word, bought a farm of 140 acres and moved upon it. It being entirely exhausted, not yielding hay sufficient to keep a horse and cow, he commenced making manure by hauling muck and other material into the barnyard, sowed oats, buckwheat, and clover, in separate fields, and plowed them under. He then spread lime upon some fields, and potash upon others, until his crop of grass was sufficient to keep a good stock of cows and a team sufficient for the purposes of the farm. This enabled him to enrich his land, still keeping up the mucking system, of collecting every other material calculated to augment the quantity and absorb the liquid of the stable and barnyard, poudrette, bonedust, and guano, not being in use at that time. He did not boast of having raised so large crops as some of your subscribers, but that they were respectably so, is

evident, as he raised upwards of 1,300 bushels of ears of corn from 15 acres, in a single year.

In 1844, eight years after purchasing this farm, his grass brought standing, in the field, in the month of June, from \$12.50 to \$18.75 per acre, and the farm sold for more than one third over its original cost with very little improvement either in fences or buildings. The price of land, however, was considerably lower than at the time he purchased, the advance being wholly in consideration of the high state of cultivation of the soil.

Much of the success in this farming operation may be attributed to the management of the good lady, in the absence of her husband. The way she served out the corned beef, bacon, and greens to the hired men cannot find a parallel. Her father was a wealthy merchant, in Philadelphia, and owned a farm in the neighborhood. After leaving her boarding school, she went with the family to spend the summer, at the farm, where she found a woman highly recommended who had been engaged to make the butter for the season. On going down to the milk house, a quarter of a mile from the dwelling, she there found the milk room literally sprinkled with cream and the churn and milk pans musty. She ran back to the house, just in time to see her father before he started for Philadelphia, and said to him, as he was getting into his carriage, "this butter maker will never do for us. Just come down and see for yourself." Down he went, and on beholding the condition of his dairy, his ire was kindled and he said, "my dear child, what shall we do?" "Why," said the daughter, "take the woman into the carriage back to the city and let me make the butter." The action followed the word. With a colored boy to do the churning and a little girl to assist, she made from June to the first of October, upwards of 900 pounds of butter, which was sold as fast as made, at a store in the neighborhood, at 25 cents per pound, besides using milk, butter, and cream in the family, and occasionally sending a roll to a friend. There were nine cows, one of which was farrow and another a two-year-old heifer. Had there not been something attractive about this spring house, this young lady would never have had her attention directed to making butter. Suffice it to say, it was a stone building, in which was a spring of cold water, pouring into a stone trough, well cemented and turning round three sides of the room, wherein the pans were set for raising the cream. Near by, was a wooden building with a copper boiler and every convenience for cleaning pails, pans, churn, &c., under an immense large black oak, with its broad dark-green leaves overshadowing the whole and keeping the atmosphere cool in the hottest days of summer.

SAMUEL ALLEN.

Morristown, N. J., May, 1849.

THE KUM-QUAT.—The Kum-quat, (*Citrus japonica*), is extensively grown in pots by the Chinese for decorative purposes, during the winter months, and produces an excellent effect. It is much more hardy than any other of the orange tribe, and when in full bearing is literally covered with its small, oval, orange-colored fruit. It is of easy cultivation by grafting, and is worthy of the attention of American amateurs.

AGRICULTURAL PROGRESS SOUTH.

THE planters of the south are just beginning to put their "shoulders to the wheel," and revolutionize all the obsolete ideas in farming. *Progress* has reached us even here, and we are in earnest. It is found better to adopt other views than those which have so long held us in their iron thrall. All around us, you can see improved implements of agriculture, and practical evidences of reason. Innovation is not now shunned, and many specimens of the most excellent effects are evident. We are on the right path now; and, in a few years more, we hope to see our once sickly child, the south, smile again with robust health. But we are still dependent on the west for our meat, notwithstanding what the "Great Mastodon" says to the contrary.

A review of the receipts from the interior and the exports from the city of New Orleans, will prove my assertion. I find that the receipts of pork for the past year, in New Orleans, that is, from the 1st of September, 1847, to August 31st, 1848, over and above the shipments from that city, have been, say 38,117 bbls. pork; 14,201 hhd. do.; 13,564,430 lbs. do.; 18,539 hhd. hams; 381,140 lbs. bulk bacon. This is in addition to the immense amount of pork and bacon sold out by flat boats on the river to plantations, and by steamboats to the larger towns, Natches, Vicksburg, &c. Where is this great amount of meat consumed? It must go to supply the south. I do not pretend to say that many planters do not raise their own meat, but as a general thing, they do not raise their own pork in the south. There are many causes which prevent them. For instance, the difficulty of curing and saving it, and the quantity of cotton made, thus preventing us from raising sufficient corn.

The continued low price of cotton has induced many of our prominent planters to turn their attention to the cultivation of the sugar cane; and from land well conducted, experiments made in this parish, it is now generally conceded, that sugar of a good quality can be made on our thin uplands. It remains to be proved whether there is sufficient stamina in the soil to support the continued drain on it. At least, it is thought the land can be kept up by alternate rows of corn and peas with the cane. These must return something to the soil. The experiment is being tried, and we shall soon know whether it will be profitable to raise sugar in the uplands. There are many advantages over the coast planters, and not the least is the facility with which wood is procured. Some have said that hauling sugar would spoil its grain. This cannot be. In Terre Bonne and some of the western parishes, sugar is hauled some distance. I never have heard any complaint on that score. It is to be hoped that our interior planters will succeed. There are some three sugar houses in this parish now, and from what I can learn, there will be no less than eight or nine more ready by the fall of 1850.

J. S. PEACOCKE.

East Feliciana, La., March 1st, 1849.

The early sower never borrows of the late.—*Old English Saying.*

A MODEL HORSE.

THE cut below is the portrait of a thorough-bred English race horse, after the model of such as were more commonly bred in the latter part of the past century. Then they were stout, fleet, and enduring—could take up a heavy weight, run their four miles, and repeat, and all this at a pace that the fastest of the present day, with their light weights and short distances, would find it difficult to match. We do not wish to be understood as asserting that all the race horses of the present day have degenerated, and are light, delicate, and weedy; for, on the contrary, many are still strong and fast; we only say, that, owing to the great change in running horses, in England, now-a-days, this is the tendency.

But to our model, which we think almost perfect. See his broad, intelligent forehead; bright, gazelle-like eyes; fine, dished face; distended, fiery nostrils; short, pointed ears; arched neck and flowing mane; deep, full chest; round barrel, well-ribbed up; short, strong back; powerful, muscular quarters; well-set and bushy tail; fine, sin-

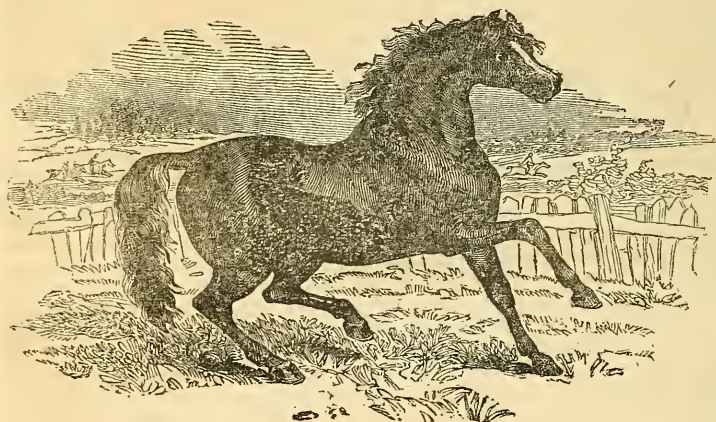


FIG.—50.

ewy legs; strong, elastic pasterns, and clear, open hoofs.

Such a horse would not only make a fleet racer, but would be strong enough for the cavalry; and on good-sized country mares, would get stout roadsters. He is decidedly like the Arabian in all his points, except that he is larger, stouter, and of course, much more serviceable for general use.

VERMICELLI AND MACARONI.

VERMICELLI is the Italian word for a paste of wheaten flour, drawn out and dried in slender cylinders, more or less twisted, like worms, whence the name. The wheat, from which it is made, is first coarsely ground, so as to free it from the husk. The hardest and whitest part is then separated by sifting, a little more ground, and the dust separated from it by boiling. The remaining granular substance, called by the French, *semoule*, forms the basis of the best pastes.

In the manufacture of this article, the softest and purest water appears to be necessary, 12 pounds of

which are usually added to 50 lbs. of *semoule*. It is better to add more *semoule* to the water, than water to the *semoule* in the process of kneading. The water must be hot, and the dough briskly worked, while it is warm. The Italians pile one piece of dough upon another, and then tread it well, for two or three minutes, with their feet. They afterwards work it for two hours with a powerful rolling pin, which consists of a bar of wood from ten to twelve feet long, larger at one end than the other, having a sharp, cutting edge at the extremity, attached to a large kneading trough. The whole process of kneading, however, might be performed in a more cleanly manner, and greatly simplified by improved American machinery.

When the dough is properly prepared, it is reduced to thin ribbons, cylinders, or tubes, to form vermicelli and macaroni of different kinds. This operation is performed by means of a powerful press, which stands in a vertical position. It contains an iron platine, or follower, carried by the end of a screw which fits exactly into a cast-iron cylinder, called the "bell," somewhat like a sausage machine, the bottom of which is perforated with small holes of the shape and size intended for the article to be manufactured. The "bell" is filled, and warmed with a charcoal fire, to soften the dough into a paste, which is forced slowly through the holes, and is immediately cooled and dried by a blower, as it protrudes. When the threads, or fillets, have acquired the length of a foot, they are grasped by the hand, broken off, and twisted upon a piece of paper, while still flexible, into any desired shape.

Macaroni requires to be made of a less compact dough than vermicelli. It is usually forced through the perforated bottom of the press, in fillets, which are afterwards formed into tubes by joining together their edges before they have had time to dry. When left in the form of a fillet, or ribbon, it is called *lazagnes* by the Italians.

Vermicelli is made with most advantage from the flour of warm countries, which is the richest in gluten. For instance, the wheat from Sicily and the southern parts of the United States generally contains a larger proportion of this substance than that grown in higher latitudes. Yet, according to the analysis of Professor Johnston, the fine flour of the celebrated Amalfi or macaroni wheat, of Italy, contains, in 100 parts, 13.3 of water and 11.62 of protein compounds, (chiefly gluten). But this is not above the average of the proportion of gluten contained even in our New-York and western flours. It is believed that, if an enterprising individual would commence the manufacture of this article, on an extensive scale, in this country, there is but little doubt that the filthy Italian macaroni would soon cease to be imported.

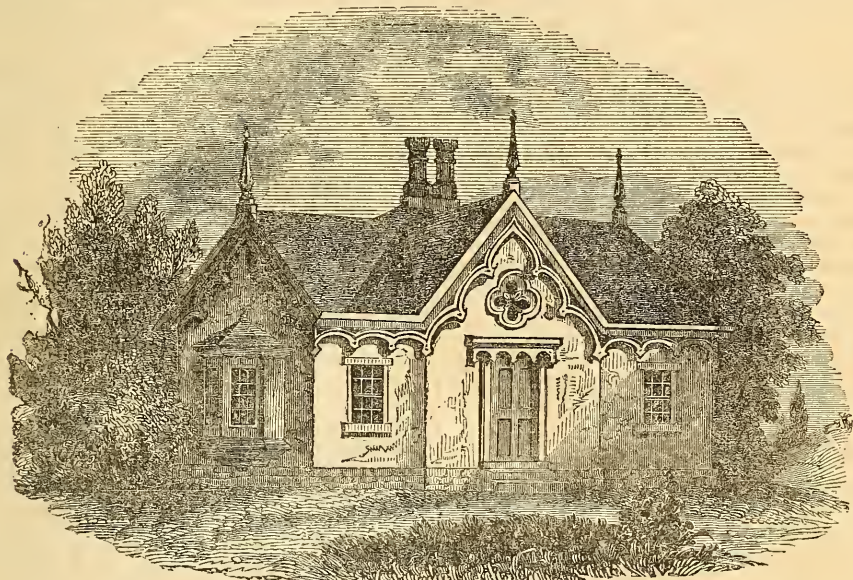
A pleasant dish may be made of macaroni, by boiling it in water until soft, either with or without salt, drawing off the water, and then stewing it with a little butter, cream, and grated cheese, after which it may be made into a form, and browned in an oven or before a fire.

RURAL ARCHITECTURE.

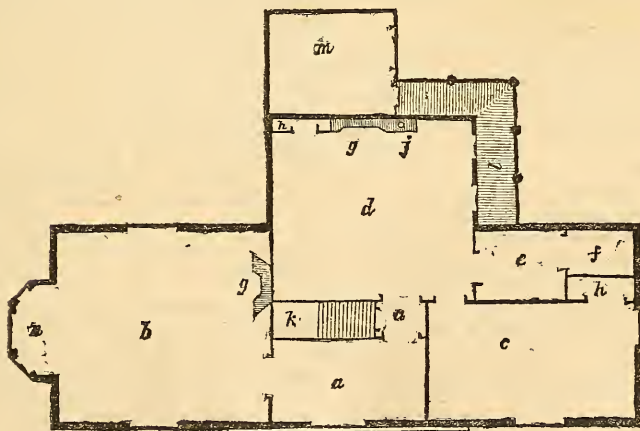
I HAIL the periodical visits of your journal, with great pleasure, as it is always to me a feast of fat

things. Indeed, I know of no work of its kind extant, (and I take nearly half a score,) wherein is so perfectly combined the *utile dulce*, as the American Agriculturist, so eminently practical and common sense is it, in its details, that it must commend itself to every intelligent house keeper throughout the length and breadth of the land, as well as those who feel any interest in the foundation of the prosperity of the American people.

Holding opinions like these, and in consideration



No. 51.—PERSPECTIVE VIEW.



No. 52.—GROUND PLAN.

of the pleasure I have derived from perusing the efforts of your pens and those of your numerous correspondents, I will, in turn, endeavor to reciprocate the favor, and add my quota to interest them. How far I shall succeed, I leave for you and them to decide.

Enclosed, I send you a sketch of an ornamental cottage, the first of a series of designs, which I will furnish from time to time as my few leisure moments will allow.

Fig. 51, is a perspective view of a cottage, containing three rooms on the lower floor, and two of

three chambers suitable for a family of five or six persons. It is intended to be covered with boards laid on vertically and battened if not built of brick or stone—the chimney to be furnished with fancy shafts, and the gables with ornamental verge boards. The batten should be made of two-inch planks, and not of thin boards as is customary; as this gives them a flimsy appearance, and detracts from the beauty of the whole.

If it is desirable to build as cheap as possible, let the outside be of unplanned stuff, which I much prefer, and the inside finished with clear pine and varnished as soon as done, without painting. This gives a very pretty finish, and little furniture shows to much better advantage than in a painted room; though some object to this on account of its sombre appearance.

Fig. 52, is the ground plan. *a, a*, halls; *b*, parlor; *c*, bedroom; *d*, kitchen; *e*, pantry; *f*, china closet; *g, g*, fire places; *h, h*, closets; *j*, boiler; *k*, chamber stairs with cellar stairs under them; *l*, verandah; *m*, woodshed; *n*, bay window.

The dimensions are not given, as they can be made to suit the wishes of the builder. Some might prefer to have the front room, *c*, used as a sitting room or library. This might be so occupied in summer, but it would be difficult to heat it in winter, without carrying a pipe through the chamber above.

J. B. DAVIS.

Boston, June, 1849.

MANAGEMENT OF SWINE.—No. 1.

We propose to make out a series of condensed articles in our succeeding numbers, on the best kinds of swine and their management throughout the different sections of the country, and as no one person can be supposed to know every thing on every subject, we shall feel obliged to any of our experienced and intelligent readers, for any new or important information, *practical, reliable, and to the point*, on this topic.

The number of swine at present in the United States, may be fairly estimated at 20,000,000, which, at \$3 per head, gives us the enormous amount of \$60,000,000 invested in this article alone. There are in the single state of Ohio, over 2,000,000, and more than 500,000 have been slaughtered in Cincinnati in one season.

From the rapid production and quick maturity of swine, they are made to yield a speedy return for the investment. The number of old and young, annually slaughtered in this country, probably does not fall below 10,000,000, worth in market an average of at least \$5 each, giving as an annual return of \$50,000,000—our *swine crop*, thus, yielding an amount about equalling our entire cotton crop. Almost every man has his pig, while a comparatively small number have their cotton field. Nearly every one, therefore, has an interest in swine, and but few have an interest in the production of cotton. Yet cotton occupies a large share of public attention, while swine are scarcely noticed.

The flesh of swine furnish more than half the meat consumed by the laboring portion of the Union, including those employed in the military and marine service and our merchant vessels. When from

the best breeds, well fattened and well cured, pork forms one of the most nutritive, as it is the most popular of our meats. None is so highly relished, and on none can a greater amount of labor be performed than on sweet, corned pork. It enters into a countless number of dishes, either as flesh or lard, imparting richness, flavor, and nutrition to all. And the juicy, delicious, corn-fed, well-prepared bacon is generally an acceptable dish on every table, saving only a Jew's or Mahomedan's. But the use and value of swine are not limited to food. Their carcasses are of vast and increasing importance in the useful and mechanical arts.

When pork is abundant and cheap, large quantities of it are converted into lard and oil. This is done not only with the more exclusively fatty portion of the meat, but frequently the whole carcass is placed in a steam bath, and all the oily particles are extracted. This, however, is purer when the skin is first taken off, that part yielding a more glutinous, viscid oil, or fat, than the remainder. When thus removed, the skin affords a portion of inferior oil, and is afterwards converted into a leather, valuable for the saddler and for other purposes. The bristles are used for brushes, and the bones are made to afford some profit by being first reduced to charcoal, in which condition it is known as ivory black, and is extensively used by sugar refiners and others.

The lard may be subjected to a pressure, which separates it into two substances, widely differing from each other, one being a pure oil, limpid in all weathers, and known as olein; the other, a compact substance resembling the best mutton tallow, and melting only when exposed to considerable heat. Both are equally suited to the purposes of illumination, the former in lamps, the latter as candles. Extensive use is made of the oil for machinery, and none is found, (from its purity and freedom from gumminess,) to answer a better purpose by lessening friction.

Such being the value of swine to our domestic comforts and national products, every item of information that enables us to avoid disease, produce thrift, and augment their value, if intelligently and judiciously carried into practice, will produce a vast aggregate of annual profit to pork raisers throughout the country. We are particularly desirous of learning the most successful mode of treatment at the *south*, as it is there we hear the loudest complaints of thriftlessness, disease among these useful animals, and want of success in breeding them.

A NEW MANURE.—Mr. Robert Bryson, of Harrisburg, Va., has been experimenting for the last ten years, to make exhausted tan bark available as manure. His plan is this: He has tan wheeled out on a flat piece of ground, and leveled off two or three feet thick. Over this, he spreads a layer of two or three inches of lime, and over that a stratum of tan; then a layer of lime and so on. He lets the bed, so prepared, remain for two years; at the end of that time, he finds himself in the possession of a bed of manure, the effects of which upon the land can hardly be surpassed, for the richness of its product, and the durable fertility it imparts.

AGRICULTURAL TOUR SOUTH AND WEST.—No 7.

HAVING spent a night with Dr. Bingay, at whose house the reader will bear in mind I stopped over to rest. It was here that I saw the coco grass, mentioned in a former letter, as growing out of the top of a sugar-house chimney. The Doctor is a small planter, and has just erected a new horse mill, of which I shall speak more particularly hereafter. He is a practising physician, and I believe a very well-informed man, full of activity and enterprise. But as I shall have occasion to speak of the Doctor again, let us ride on.

The next place worthy of note, is that of Col. Preston, of South Carolina, son-in-law of the late Gen. Hampton. It is a part of the "Houmas Grant," the other part being owned by his brother-in-law Col. Manning. Col. P. has about 2,000 arpents, under cultivation, and 350 hands in the field and 750 in all, upon the place, under the management of Capt. Sheaffer, a very intelligent and pleasant gentleman. It takes 150 horses and mules to work this place, which is rather under the usual number upon other plantations. The last crop, which he considers "almost a failure," was 1,100 hogsheads of sugar. All the land on the river is measured by *arpents*, which contain, within a small fraction of 18 per cent. less than an acre.

I counted in one "quarter," (the name given to the negro houses,) upwards of 30 double cabins, all neatly whitewashed frame houses, with brick chimneys, built in regular order upon both sides of a wide street, and which is the law, must be kept in a perfect state of cleanliness. Feeding the force on this place is not quite equal to feeding an army, but it takes nine barrels of pork every week, which, at an average of \$10, is \$4,680, per annum, cash out, for that item alone. The regular allowance of pork to all field hands, is four pounds, clear of bone, per week, with as much corn meal as they can eat, besides molasses, sweet potatoes, vegetables, and occasional extras of fresh beef and mutton. Children's rations, 1½ pounds of pork per week, and full supply of other things. This place being in a bend of the river, the front is comparatively very narrow, (34 arpents, or about 28 to a mile,) and "opens out," as the lines run back, like a fan, which is the way that all the lands were originally laid off. On points, on the contrary, the lines run together in the rear, the fan opening the other end foremost.

An ox-breaking machine, I saw at Dr. Wilkins', consists of a pole about ten or twelve feet long, fastened on top of a stump by a bolt, so it will turn round freely, the steer being fastened at the other end with a strong bow, and having a rope fastened around his loins and to the pole, he is left to go round and round, until, on being taken out next day and yoked in the team, he is ready and willing to go ahead. Dr. W., who has this machine, says he copied it from some agricultural paper, and as he owns a large steam sawmill, and has a great many steers to break every year, he would not be without it for a hundred dollars a year. But still, to use it, is "book farming." Perhaps a little more such book farming would be economy. He also says that bleeding a horse until he faints and falls, will cure the worst case of colic, and not injure the horse. [Doubted.—Eds.] Although he owns a

thousand acres of cypress swamp, the difficulty of getting the lumber out, unless he should first dig a canal, is so great that he buys all his logs in rafts that come down the river. Lumber is worth \$12 to \$30 a thousand. He has in operation at his mill, a stave-making machine, that makes six to eight staves a minute. It is the same kind of machine, I believe, patented and in use in the state of New York, and in this sugar region where so many barrels and hogsheads are used, it ought to be in general use. I commend it to the attention of planters. They can easily see it in operation, and learn its labor-saving powers.

Mr. Fagot, a very polite French gentleman, whose first inquiry after introducing myself, as is almost always the case at that particular time of day, "have you dined?" has a brick-drying shed, under which he can dry 30,000 at once, upon the "bearing-off-boards," put on slats fastened to posts. By this plan, he can have the shed filled with bricks at odd times through the summer, which may be burnt when ready. Owing to the very frequent showers in this country, brick making is a very "catching business," but by this plan, all that trouble and loss is obviated.

Mr. F's place is a short distance above the "convent," in St. James' parish, which is a very imposing-looking structure, or rather structures, neatly formed and where a large school is kept; and where all looks in a healthy, flourishing condition. This was a state-fostered institution, and is said to have cost near half a million of dollars.

Along the road, the small Creole places are thick as "three in a bed,"—all the tracts being 40 arpents deep, and the reluctance of old families to sell out, has caused divisions and subdivisions among heirs until the land is thrown into a shape almost worthless, as I have already mentioned. Fancy a farm three rods wide, and 480 rods deep, and if you like it here is a lot on 'em.

My entertainer at night was a French gentleman by the name of Ferry, where I found a small house well furnished, standing separate from the dwelling, in which to lodge travellers, where all their wants are as well cared for as though it were in a hotel.

Among the beautiful plantations passed, was that of "Golden Grove," belonging to C. M. Shepherd, Esq., for which I would willingly exchange all my interest in the California golden groves, or "placers." The most of the interest of a visit to this splendid plantation, was lost by not meeting the owner, whose character as a planter and as a gentleman of taste and refinement, stands very high. A few miles below, is the plantation of Dr. Loughborough, on the point, which, owing to the shape of the tract, as before mentioned, has no woodland, and where I saw the whole force of the estate at work "catching drift;" a job of no small amount upon a place making 500 hogsheads of sugar, as that alone would consume, at least, 2,000 cords of wood of the usual quality of drift. The process of catching drift is by sending out a skiff, which fastens a rope to a whole tree, perhaps, and a very large one too, sometimes, and towing the prize ashore. One end of a chain cable is made fast to it, and the other to a powerful capstan, turned by horses or mules. I say powerful, for I saw them snap the chain like threads, when getting

hold of "an old settler," before they could get it upon the beach far enough to take off a cut, which is done, cut after cut, until they are able to pull out the remainder. This may seem a very precarious way of supplying a large plantation with fuel, and yet it is the only dependence of many. Formerly, it was a tolerably easy method, but of late, there are so many hundreds of persons whose whole income is derived from this source, besides the great amount required by plantations, that the supply is hardly sufficient to meet the demand, and a great deal of very poor stuff is now caught with avidity, that, in those good old times of plenty, would have been despised.

On my way, I called on my old friend and acquaintance, David Adams. As is the general custom among the planters in the "rolling season," he eats and sleeps in the sugar house. I am well satisfied that the "Mayor of Pittsburg," who is a brother of Mr. Adams, did not enjoy a more pleasant dinner than was our sugar-house fare that day. Mr. A. says that he made 60 bushels of corn to the arpent upon one piece, this year, of a choice white kind, by manuring and deep plowing, which is three times the usual crop. His molasses cisterns are of cement, plastered directly upon the pit dug in the earth, which he thinks preferable to brick work. As he has had to catch or buy fuel, he has made a part of his crop this season, as an experiment, with Pittsburg coal, and is well satisfied with the result. He mixes a small portion of wood under his kettles with the coal, which he thinks should always be done. Out of the many planters and farmers, whose early life was spent in other pursuits and who afterwards made successful tillers of the soil, although mere *book farmers*, Mr. A. may justly be ranked.

Among other enterprising and improving Creole planters, Mons. Boudousquie, below Mr. Adams', deserves mention, as does Mr. Felix Reine, in whose garden I found a great abundance of very large and most delicious sweet oranges, which are rendered quite unsaleable, even at the low price of 40 cents a hundred, by the alarm of cholera in New Orleans, with the idea that indulgence in fruit is dangerous.

Mr. J. Gasset, from Kentucky, at Bonnet-Carré Bend, with whom I spent a night, lives in the house built by the old Spanish Commandante, 70 years ago, which is still in a sound condition. It is built of red cypress, which is as much more durable than white, as is red cedar more durable than white cedar. Mr. G. has the first draining machine that I have met with. It is a steam engine and wheel which elevates the water five feet, and cost \$5,000. He has 600 acres in cultivation, ditched every half arpent (about 100 feet). The machine works on an average about three days a week, at an expense of 300 cords of wood a year, which is worth \$2 to \$3 a cord, and one hand to tend. If run constantly, it would drain 500 acres. Mr. G. has plenty of wood, but it is in a wet swamp and troublesome to get out. He has used green bagasse to boil sugar, as he thinks to advantage, by mixing it with half the usual quantity of wood. The cost of drainage would be greatly lessened, if a united interest could be brought to systematize a great work of the kind. Time and increased value of

the lands will bring this about, and make this "great swamp state," one of the gardens of the world. Canals will be made as common as in Holland, and a similar system adopted to get rid of the surplus water. More than half of the area of the state is susceptible of having a navigable canal made to pass through every plantation. When this is done, the draining machines would empty the canals, and keep the surface of land that is now ten or twelve feet below flood height of water in the Mississippi, in a perfectly dry and fit state of tillage, at a far less expense, per acre, than is now incurred by the imperfect individual system. "Union is strength," and that is the only kind that can control the floods of such a "great father of rivers," with so many obstreperous children.

SOLON ROBINSON.

New Orleans, Dec. 29th, 1848.

THE COW—HER DISEASES AND MANAGEMENT.— No. 14.

Hoven.—This disorder, sometimes called "fog sickness," is a species of flatulency, which is very sudden in its appearance and very violent in its effects. It is occasioned by turning the animal into fresh clover, lucern, pea vines, green Indian corn, buckwheat, or other rich pasture, to which she has not been accustomed, where she eats so greedily as to overload the stomach.

In this state, the extrication of the gases of her food takes place, and produces such a violent distortion of the paunch, that the gullet or upper part of the stomach becomes closed, so that no vent can be given to the contained matter, and unless prompt relief can be afforded, the death of the animal most generally ensues in a few hours. In the last stages of the disease, the tongue hangs out of the mouth, the eyes are full and protuberant, and the rectum, (last gut,) is distended externally sometimes four or five inches. The cow often drops down dead to all appearances, or exhibits signs of the most severe torture and pain, and her groans are piteous and distressing in the extreme.

In this complaint immediate relief must be given, which may be procured by opening the cavity of the first stomach by pushing down the throat of the animal a flexible pipe, or tube, (one formed of India rubber, gutta percha, or of linseed oil will do,) through which the air, or gases, suddenly rushes out, and she is soon relieved of all her distress. If this remedy is not at hand, the first thing to be done is, to open a vein; then stab the animal to the depth of two or three inches, with a sharp-pointed knife in the left flank, about three inches from the hinder rib, as near the hip bone as can be done, without piercing the flesh. The operator should stand near the left shoulder with his left hand on the back of the animal, and make the incision with his right, in order to avoid being kicked, which sometimes, though rarely happens. If she is down, the hind legs may be secured, for the moment with a cord. Be not afraid of wounding the intestines, as no danger can ensue, provided the cut is made high enough up. The knife must pierce the abdomen, to let the wind escape, which lies in the cavity around the paunch. The orifice must be kept open some little time, by inserting a small quill, and then healed up by applying over it a plaster of pitch. By this method

the same relief will be afforded as by running the tube down the throat.

In the meanwhile, warm a quart of milk, to which add half a pint of molasses, an ounce of anise seed, and a table-spoonful of sweet oil; mix the whole together, and inject, with a common glistar pipe and bag, into the rectum. This will stimulate the entrails, keep warm and alive the blood, till the respiration of the animal can be recovered. If a glistar of this sort cannot be had, bruise an onion, mix with butter and pepper, and put it up the fundament. This will have a similar effect as the one last named.

After the violence of the disease has abated, the following purging medicine may be administered, in order to throw off the accumulation of food in the stomach, which is all that is necessary to effect a cure :—

Take, Epsom salts, $1\frac{1}{2}$ lbs.; althæa ointment, 3 oz.; salt-petre, $\frac{1}{2}$ oz.; powdered fenugreek, $1\frac{1}{2}$ oz.; powdered mustard seed, $1\frac{1}{2}$ oz.

To be given, at one dose, in three quarts of gruel in which two ounces of soap have previously been dissolved.

One or the other of the above methods should be immediately applied; for, half an hour, and frequently a less time, terminates the disease by death or recovery. Therefore it is necessary to be expeditious. Do not listen to those who tell you about danger from the knife. It may, and sometimes does fail; but without it, or the other method, the loss of your cow is almost certain.

CULTIVATION OF GRASSES AT THE SOUTH.

SHORTLY after commencing operations at this place, I began the cultivation of the northern grasses, and thinking I might succeed on the flat lands, adjoining the marsh and river and the higher parts of the marsh itself, I was induced to have ditches cut, and dams thrown up with a tide gate to let out the overflow of fresh water, and to close at the flowing of the tide, which always takes place whenever we have an easterly blow. For a few years, I was much pleased with the prospect of success, but as soon as the belt at the ocean began to give way and many inlets formed, the salt water commenced flowing in upon us, which was so greatly impregnated with salt as to disappoint my expectations, by killing the grass and rendering the soil barren to everything but worthless water bushes and rushes.

I have been much pleased in perusing the short extracts taken from Allen's American Farm Book, on grasses, meadows, and pastures, and have been induced to collect and forward you several kinds of native grasses, which I find growing spontaneous on my plantation. The class of soils on which they are found are of different locations from the flat lands near the river to the hill side and ditch bank of hard clay, in which it seems to grow and flourish. The gamma grass is one of these kinds. Having only a limited knowledge of Botany, I am quite ignorant of the proper names of these grasses, and should be much gratified, in deriving some information from you on each kind sent you.

The gamma grass I am familiar with, and if you have never seen it, you will readily distinguish it from the others by its wide fodder-like leaf and strong root, which resembles the lily and flag.

This is a very valuable grass to the southern farmer, and can be propagated either by the seed or plant; but it will not do for stock to run on it longer than the 10th of May, as the continued grazing of the cattle will destroy the roots by plucking the tender shoots, which more readily pulls out than break off at the root. When mowed, which can be done after the cattle have been removed in the spring, I have known this grass to grow three inches in five days; and in thirty or forty days, if the soil is strong and calcareous, it can be cut with the sickle or Dutch hook, which is the best mode of doing it. While young and tender, it makes excellent food for milch cows, the cream and butter soon showing the deep yellow and fine flavor; and while curing in the shade, which is much the best, the fragrant scent of this grass is perceptible for many yards.

J. B. MARSH.
Belmont, Pamlico River, N. C., May, 1849.

We have received the above-named grasses, for which we are much obliged. We deem the investigation of the subject of grasses one of the most important for every section of the Union, as their product far exceeds in value every other grown.

LETTERS FROM CALIFORNIA.—No. 3.

FINDING some leisure on my hands, I jumped into a light wherry, with half a dozen jovial spirits, at this now great place of San Francisco, and availing ourselves of a light breeze that swept over the narrow belt which separated us from the broad Pacific, we rapidly glided over the scarcely-ruffled waters of the bay northwardly. We shot past the now bright "emerald isles" of Yerba Buena, Angelos, and Molate, thence through the strait to the bay of San Pablo, thence through the bay eastwardly till we entered the strait of Karquines, which leads direct to Suissun (or Sooson,) bay, the recipient of the Sacramento and San Joaquin. Just after entering the strait, we turned suddenly to the left and pursued our way in a northerly direction through an irregularly expanding sheet of water. This was the outlet of the Napa Creek, the upper part of which was the point of our destination. The wind that had so fortunately aided us thus far, now gave out, and we had to resort to our oars, which we had taken the precaution to bring with us. The stock of eatables with which we had abundantly provided ourselves, had nerved us for the occasion, and we sped away past the varying and picturesque scenery which now presented itself to our admiring gaze.

The shores of the water which had been our route were sometimes low, flat, alluvial mud, and sometimes bold promontories, or basalt or limestone. Immovable in their jutting fastnesses of everlasting adamant, they seemed to embody the genii of the place, and nodded their stern warning to us, that we should do their country and people no harm. Up this verdant and delightful valley we pushed, till approaching night and our wearied arms invited us to repose. Not having sufficient room for the accommodation of all on board, we pitched our tent on shore, and after having kindled our fire by which we were to cook our supper and warm ourselves through the night, we dispatched our culinary and gastronomic duties, then taking

our pipes, (the almost universal companion of the huntsman and wanderers in these wilds,) we sung and joked away the evening till it was time to betake ourselves to rest. Each brought to our festive board, whatever of daring feat, or wild exploit, or romantic incidents he had learned or witnessed; and the varied and striking recitals, amid these lofty sierras and picturesque scenes by which we are surrounded, gave to the ready listeners, an interest and excitement, the placid drivellers of a drawing room or theatre, or even the wearisome inanity of the ball room at a fashionable watering place, might envy. The pure bracing air, our plain but substantial and easily digested fare, and the wholesome excitement of body and mind, gave us an appetite for sleep in which we indulged, (with the exception of the watch, whom we deemed it proper to provide against any possible depredation, and who was regularly relieved every two hours,) till the sun had fairly crowned the height of the elevated mountains. We immediately sprung to our feet, hastily cooked our morning meal, being supplied with pure water for our coffee, as in the evening before, from the adjacent stream. Then, shipping our tent, we pushed up the creek as far as navigable with our light bark, then run her ashore and made fast to a sappling, and with our arms and ammunition in hand, we bade a temporary adieu to our craft. We sought the peak of one of those lofty sierras that had bounded this valley on either side, through its whole distance. From this point, we had an almost uninterrupted view to the south, as far as our vision could discern.

The sierras here almost interlock, but gradually diverge till they reach their southern limits, when they are seven or eight miles apart. Some of these mountains, unlike the majority of those in California, are covered with lofty trees to their summits. At their base, the verdant plain stretches out to the river on either side, and with the clumps of graceful oaks which everywhere dot this valley, and the numerous herds of cattle grazing amid the foliage, the scene was one of enchantment, and would well repay the tourist for a toilsome journey of one hundred miles. The *aguas calientes*, the most noted of the numberless hot springs of California, welled out from the base of an adjoining hill, the mysterious messenger from those perhaps not remote subterranean fires, which in by-gone ages, have peopled these regions with the everlasting mountains of trap and basalt. The soil of this valley is unsurpassed among the fertile valleys by which it is surrounded. It is principally alluvial, and its formation from the fertile ingredients of the decomposing lava of the adjoining sierras, indicates clearly the causes of its fertility. It is rather to the presence of enriching salts than the accumulation of vegetable matters, that its great productiveness is owing.

There is a natural herbage here, as elsewhere throughout the well-watered and fertile portions of California, which yields the most nutritious food to cattle, horses, and other animals, which abound here. A thick coating of soft, rich pasture covers the valleys through a considerable portion of the year, commencing just after the beginning of the rainy season, and lasting till the parching heat of summer dries up every particle of moisture.

Many species of these grasses ripen an abundant harvest of farinaceous seeds, which are shaken out and thrown into windrows by every passing breeze.

This is the carnival time with cattle, both wild and tame; and to the luscious repast, they assemble from mountain and glen, and load their carcasses with savory flesh and fat. It is after they have become thus surfeited with these grassy spoils, that the cattle are driven to the *mataderos*, and are there slaughtered for their hides, tallow, and jerked beef. The latter is taken from the haunches, cut into thin slices, and dried in the open air, without salt or smoke, for so dry and pure is the atmosphere at that season, that the meat is effectually cured in a short time without taint. Numerous herds of elk abound throughout the year, and at this period are so fat, as to be easily taken, when they yield 100 or more pounds of suet, which is tried out and retained for cooking their *frijoles*, tortillas, and other vegetable food. Bears, also, both grisly and others, are plenty and fat at this season, from the abundance of the mast and the live game, which at this time is within their reach. Deer, antelopes, wild turkeys, &c., are everywhere to be found, at this season of plenty, and all are easily accessible to the skilful hunters. Of course, all these must soon yield before the resistless march of the ever-successful Anglo-Saxon invader.

There is a species of pine here, which produces large cones, each of which contain numerous seeds of the size of medium acorns. The ground is often loaded with these, and they furnish a delicious repast to swine, cattle, deer, wild turkeys, pheasants, &c.

If nature is niggard of her cultivable acres here, owing to the large proportion of sterile lands and inaccessible sierras, she is prodigal of her bounties wherever she furnishes them within the narrow circuit of her fertile valleys. These pervade the borders of this coast, (speaking in an enlarged sense, and comprehending a space seldom exceeding 50 to 100 miles in width,) and between the lofty and frequently inaccessible hills or mountains by which they are bounded, there generally lies a secluded spot of earth, than which, no portion of the Creator's heritage furnishes a greater variety or abundance of valuable products that minister to the support of man. Everywhere, we find the stalwart maize, which here sometimes grows, (the Mexican variety,) to the height of 18 or 20 feet. Wheat is almost universally grown, as well as oats, barley, buckwheat, &c. Beans and peas are an invariable crop, the former, (*frijoles*), compose a part of every meal, cooked in the fat of animals or sweet oil. Yams and sweet potatoes can be everywhere raised, and in most places the northern potato is abundant, and of good quality. Melons of great size and richness are grown, while by the side of the staples of a temperate or almost northern clime, are seen in the greatest profusion—figs, bananas, oranges, lemons, citrons, olives, and grapes, the latter of a richness and flavor that the most favored region can hardly surpass. A species of gigantic rush called *tula* grows over most of the marshes; and with thongs of leather or bark, the natives can, at a moment's notice, gather a few large bundles of these reeds, and when lashed together, they serve to raft the heaviest loads over the broadest streams.

Much of the country and many of the mountains, like those of Mexico, are bare of trees and foliage. The latter throw up their bald, naked outlines, rough and intractable alike to the efforts of the husbandman or utilitarian. But as nothing is made in vain, science may perhaps, hereafter, find in them mines of countless wealth for future generations.

But what has most gratified me, in the natural productions of this far-off world, is the magnificence displayed in the *evergreen*, or *live oaks*. They seem to vie in breadth, with the height of the pines further north, which often shoot up 300 feet, and of a diameter of sound trunk, reaching to 10, and sometimes to 12 feet. But of these hereafter. The oaks embody whatever of magnificence and beauty are to be found within the compass of forest vegetation; and scattered, or grouped as they often are, through these picturesque valleys, frequently shading herds of cattle, nothing can give a more engaging picture when viewed in the distance. Besides the oak, in its numerous varieties, we have the elm, the ash, the beech, birch, and the plane tree; and along the streams, the willow, the sycamore, and other water-loving trees; while clambering the lill sides, the pine, cedars and firs, of numerous varieties are everywhere to be seen. But I must defer till another time and greater leisure, any further description. * * *

Napa Valley, California,
March 10th, 1849.

HINTS ON THE MANAGEMENT OF HORSES.—No. 3.

The food ought to be given to the horse soon after his work is completed for the day, and when he has become cool and thoroughly groomed. Much injury results from giving the animal food when heated. The stomach is then slightly inflamed and weakened, and not in a condition to act at once upon the food. Allow it time to recover its tone and vigor, and nature will then be ready to commence the important business of digestion, as soon as the food is taken, when otherwise it would remain unacted upon for some time, thus tending to injure rather than benefit the animal. It is better, too, that he be not allowed to drink freely till after eating a part of his evening meal. He will frequently drink to excess, from mere emptiness and exhaustion. After consuming a portion of his food, he may be supplied with all the water he can drink, which should be again furnished freely at morning. The supply of food ought to be greatest at night; and this should be of a nutritive, tempting kind, and in the state best prepared for assimilation. He thus fills himself at once, and lies down quietly for rest and digestion, and by the time he is called out for his morning's work, he is replenished with a renewed stock of blood, muscle, and tendon, for his labor.

The horse ought not to be overfed in the morning, nor is it necessary that he be stuffed through the day. One, two, or three feeds, in the course of the day, according to the time he is engaged, is sufficient for him; and this should not be bulky food, unless he is to rest for some time after taking it.

Severe exercise, on a full stomach, is equally injurious with full feeding immediately after heating and hard work. Nothing will sooner break down

horse or man than such management. The horse should be slowly exercised when put to his work, nor should he be pushed till his stomach becomes partially empty. There is no objection to the horse having what water he wants, and whenever he wants it, with the single exception before noticed, provided the water be of the proper temperature. This will vary according to his condition and the season. When cool from his stable, the horse may drink running water, however cold it may be, even during winter. His system is at that season guarded against danger from this cause. But equally cool water, taken when warmed by exercise, or in the summer, when he is relaxed by heat, may produce cramps, spasms, or permanent disease. Water drawn up from a deep well, or bubbling up from a cold spring, ought never to be given in summer, till it has been suffered to remain some time in the open air and become warmed. It is better when the animal is heated, to dash some water on his legs, bathe his nostrils, and wash his mouth with a well-filled sponge; or let him stand in a running brook for a few minutes before drinking. This has a cooling effect, allays his thirst, and to a certain extent, supplies the want of water.

We omit for the present, any further remarks on the food of the horses, and take up the next most important subject connected with their management;—the construction of their stables.

A dry, well-aired stable is of the first importance to the health and working capacity of the animal.—

The horse is a native of a warm and dry climate, and such are the conditions in which, with little skill or science on the part of man, he attains the greatest perfection, endurance, and strength, within the smallest compass. This is characteristic of the entire race of horses, throughout the parched sands of the southern Mediterranean coast, the arid plains Arabia Petraea, Idumea, Asia Minor, and no inconsiderable portion of southern Europe. And we have the most unequivocal acknowledgment of this fact in the resort to those regions for the infusion of stamina for such animals as have degenerated from inhospitable climate, improper food, or injudicious breeding. When transferred, therefore, to other countries, which are not so well suited to his constitution, and subjected to a highly artificial condition, great caution is necessary to avoid injury to his health or strength.

Stables ought never to occupy a low, confined, nor damp position. There is no objection to placing them close to the ground, nor even using the surface of it as a floor, provided the position be elevated and the soil dry. Indeed, where box stalls are used, and the animal is loose, and can have sufficient room to move freely, we think such flooring the best suited to him. We have thus kept breeding animals in perfect health throughout the winter, scarcely suffering them to pass the threshold during the entire period, and not even clearing out their stalls. Their diet, was, of course, light, and the litter occasionally replenished when it had become too damp. Where ground is not too expensive, we think this the most economical management with horses of any kind. No daily clearing of stalls is necessary, there is no waste of manure, the litter is thoroughly saturated with the droppings of the animals, and on the approach for warm

weather, when fermentation might be expected, all is removed at once to the fields where wanted, undiminished by washing rains or the escape of the nutritious gases. In warm weather, such stalls should be cleaned as often as may be necessary. With such stalls, there can never be danger of overheating, nor foul air, when properly ventilated; and the footing for the animals is best suited to preserve sound hoofs, as it is sufficiently soft and elastic, and yet where suffered to run loose, their frequent treading over every part maintains a proper firmness. Stables, compactly arranged, are, however, most frequently used. If built upon a clay or damp soil, the floors ought to be well raised above the surface, to allow a free circulation of air underneath, and carry off all dampness before it reaches the stable. If the floors could be conveniently raised, so as to allow of removing the compost from below, the urine might be suffered to drop from the floor directly upon it. Where this arrangement is impracticable, a slight inclination, (and only a slight one,) should be given to the floor, by which the liquid is carried to a gutter, through which it should pass directly off, and beyond the possibility of future annoyance to the animals. In addition, it is well to wash the floors occasionally, and scatter gypsum plentifully over them, to remove and absorb the constantly-accumulating ammonia. This is life to the soil, but disease to the horse; its proper disposition, is, therefore, as beneficial to the former as injurious to the latter.

Almost every disease may have its origin in damp, ill-ventilated stables, colds, coughs, catarrhs, swollen legs, grease, mange, inflammation of the eyes and throat, a rough, harsh coat, that no grooming can lay smooth, and even farcy and glanders are by some attributed to these causes. The stamina, constitution, and strength of the horse being thus impaired, his spirit flags, he becomes dulled by the incipient diseases, which are fast creeping upon him, and thus, even those preliminary evils, carry with them one half the value of a spirited animal. The underground stables, so generally used in cities, do more to wear out the horse and bring him to an untimely end, than the daily labor required of him. Much can be effected by perfect drainage, thorough ventilation, and the use of absorbents, (tan bark, sawdust, gypsum, &c.) towards removing the humidity and deleterious gases; but where many horses are crowded into an underground room, there is hardly a possibility of their comfort and health being duly regarded. The loss which has frequently occurred from fire, where no outlet existed, except through a single door, instead of having double doors where half a dozen can be led out abreast at each end, would, on the score of self-interest, if not humanity, lead to ample provision for ventilation and escape.

Equality of temperature is highly necessary to the horse when at rest. Brick or stone stables are, therefore, more suitable both for winter and summer. Such as are protected by boards will answer every purpose when made sufficiently tight for winter.

For southern stables, so much care is not required; but it is well, even there, to have the animals guarded against the severe storms, and chilling currents of air which bring to the unprotected brute,

colds, catarrhs, and a long train of insidious and oftentimes fatal diseases. We have found in many of our southern states, that the arrangement for stabling consisted solely in providing a roof, under which, the wind passes unchecked. This is very well for much of the year, and may be tolerated, perhaps, in the extreme south; but some protection against the reflection from the hot summer sun, which would be afforded by walls, as well as the exclusion of wind in winter, would add materially to the comfort, and thereby promote the health of the animals.

TO DISSOLVE BONES.—A correspondent in the *Gardeners' Chronicle* gives the following directions to dissolve bones in sulphuric acid:—Under cover, either in a manure barn or cart shed, I make a clay basin or trough, 20 feet by 10, with edges 20 inches wide and as high, into which, having previously thrown 100 bushels of half-inch bones, and having damped them, I pour from the carboys 1,700 lbs. of acid; the contents of each carboy being marked by the maker, I have not the trouble of weighing. As soon as the requisite quantity of acid is poured into the trough, two men with common iron road scrapers or long iron rakes, commence stirring, continuing so to do until effervescence subsides, two hours completing the work. I leave the mass for ten days, when, by the addition of sufficient water, I bring the whole to the consistency of a thick gruel, cinder dust being then as usual.

PRICES OF SPECIAL MANURES IN ENGLAND.—We subjoin a specimen of prices paid for a variety of manures manufactured and for sale in England.

Corn and grass manure,	per ton, £9 10s.
Clover manure,	" 8 0
Turnip manure,	" 7 0
Superphosphate of lime,	" 7 0
Sulphuric acid and coprolites,	" 5 0

Reckoning the pound sterling at \$5, it will be seen that John Bull pays pretty roundly for his manures. One fourth the above amount expended by American farmers in saving such as they already have, would give them a greater quantity in quality and value.

BREAKING STEERS.—An effectual and speedy mode of breaking steers, is to use a yoke long enough to hold four bows at suitable distances. Put a strong, steady yoke of oxen on the outside and the steers inside, treat them gently and do not use the whip nor goad, and you will soon have the young ones as well broken as the old.

GUANO.—The most economical application of guano is directly under or upon the seed where the roots will be sure to find it. It should be covered with earth and slightly separated from the seed. Sowing broadcast, in damp weather, upon the growing grasses or grain, is a good mode of application, but it should first be intimately mixed with several times its bulk of garden mold or well-rotted peat, swamp muck, and some plaster.

CURE FOR A HORSE PULLING AT THE HALTER.—Fold one ear under a small strong cord which fastens him. He will give one jerk but never a second.—*Boston Cultivator*.

Ladies' Department.

TO PRESERVE TOMATOES.

Six pounds of tomatoes first carefully wipe, Not fluted nor green, but round, ruddy, and ripe; After scalding, and peeling, and rinsing them nice— With dextrous fingers 'tis done in a trice— Add three pounds of sugar, (Orleans will suit,) In layers alternate of sugar and fruit. In a deep earthen dish, let them stand for a night, Allowing the sugar and juice to unite! Boil the sirup next day in a very clean kettle, (Not iron, but copper, zinc, brass, or bell metal,) Which having well skimmed, 'till you think 'twill suffice, Throw in the tomatoes, first adding some spice— Cloves, cinnamon, mace, or whatever you like best— 'Twill add to the flavor, and give them a zest. Boil slowly together until they begin To shrink at the sides, and appear to fall in; Then take them up lightly, and lay them to cool, Still boiling the sirup, according to rule, Until it is perfectly clear and translucent— Your skill will direct you, or else there's no use in't— Then into the jars, where the fruit is placed proper, Pour boiling the sirup, direct from the copper. After standing till cold, dip some paper in brandy, Or rum, or in whiskey, if that is more handy; Lay it over the fruit with attention and care, And run on mutton suet to keep out the air; Then tie a strong paper well over the top— And, "now that I think on't, the story may stop." If you'll follow these rules, your preserves, never fear, Will keep in good order till this time next year.

A. B.

Washington, October, 1848.

JELLIES FOR THE SICK.

To Make Canada, or Bread Jelly.—Cut a wheaten roll, or loaf, into slices, toast them on both sides, and boil in a quart of water, until the whole forms a jelly, adding more water if required; then strain, and flavor with one pound of white sugar, four ounces of red wine, and one ounce of cinnamon. Very nutritious. It may also be made with broth from which the fat has been skimmed, instead of water.

Biscuit Jelly.—Take of white biscuit, crushed beneath the rolling pin, four ounces; cold water, two quarts; soak for some hours, boil to one half, strain, evaporate to one pint, and flavor as above. Given in weakness of the stomach, dysentery, and diarrhoea.

Rice Jelly.—Take of rice, three spoonfuls; boil in water, add ten sweet and five bitter almonds, and sugar to your liking; make into an emulsion, and flavor with cinnamon, or orange-flower water to your taste.

Arrow-Root Jelly.—Take of arrow root, one ounce; rub to a smooth paste with a spoonful or two of cold water; then gradually add of boiling water, half a pint, stirring all the while. It may be thinned with more water, if desired, and flavored with milk, wine, sugar, and spices, according to the palate of the patient.

Sago Jelly.—Soak sago in cold water from an hour to an hour and a half; strain, and boil in fresh water till it becomes transparent; then add wine, sugar, clear broth, milk, prunes, or spices to flavor. One ounce of sago will make a pint of jelly.

Tapioca Jelly.—First, soak, strain, and boil the tapioca, as directed above for sago; then flavor with lemon juice and peel, wine, prunes, raisins, or spices. One ounce of tapioca will make a pint of jelly.

NOTE.—The flavoring of any of the above-named jellies may be omitted or varied, with the advice of a physician.

BEET-ROOT VINEGAR.

MANY families purchase their vinegar at a very considerable annual expense; some "make do" with a very indifferent article; and others, for want of a little knowledge and less industry, go without. It is an easy matter, however, to be at all times supplied with good vinegar, and that, too, without much expense. The juice of one bushel of sugar beets, worth twenty-five cents, and which any farmer can raise without cost, will make from five to six gallons of vinegar, equal to the best made of cider or wine. Grate the beets, having first washed them, and express the juice in a cheese press, or in many other ways which a little ingenuity can suggest, and put the liquor into an empty barrel; cover the bung hole with gauze, and set it in the sun, and in twelve or fifteen days it will be fit for use.—*Farmer's Advocate.*

COOKING MEAT.—Under-done, meat is as injurious as over-done; and it is a popular error that states half-cooked meat to be more nourishing and digestible than well-done. Baked meats are less wholesome than either boiled or roasted; they become "soddened," and have an "oveny" flavor. However, a great improvement has been effected in modern kitchen ranges, and the objection is becoming less tenable. The same remarks apply to the cooking of potatoes. Frying is a process objectionable, chiefly on account of the butter employed, and the absorption of the fat into the meat.

Boys' Department.

AGRICULTURAL CHEMISTRY.—No. 14.

WHEN a field is kept under cultivation from year to year, without the application of manure, the crops continually decrease, until at length, the land refuses to yield a return sufficient to repay the expense of tillage. The reason of this deterioration is obvious. Plants, you know, extract a part of their nutriment from the soil, and but a small proportion of the soil consists of those ingredients which are capable of ministering directly to the wants of vegetation. Therefore, the land, in a few years, becomes so far exhausted as to be unable to furnish as much food as the crop requires, and it becomes necessary that it should receive a new supply of the matter that has been abstracted. This matter may be directly returned in the form of manure, or the lost fertility, may, in a measure, be restored by allowing the land to lie idle for one or more years. This last method is termed *fallowing*, of this I now propose to treat.

Of fallowing, there are two systems—one called *naked fallowing*, consisting in plowing the fallow land repeatedly, without cropping, thus leaving it naked, and exposed to the full influence of the sun, air, and moisture, until it is supposed to be sufficiently recruited to produce a remunerating crop. The other method is to sow on the ground a fallow crop, (usually clover or buckwheat,) which is afterwards plowed into the soil. If buckwheat be sowed, it is plowed in when in blossom, and left to form a bed of humus. This mode is sometimes called *green manuring*. But the more common, and in most cases the more judicious way, is to put clover on the field, which needs fallowing, and

leave it for two or three years in pasture. By this means, the field, instead of lying idle, yields a profitable return; all the benefit ordinarily derived from fallowing is obtained; a firm sod is made, which, when turned over with the plow, forms a fine bed of humus, and the fertility of the soil is restored to a remarkable degree.

This method has almost entirely superseded the old one of naked fallowing, and is decidedly preferable, in most cases, though circumstances may occur where the other can be more judiciously practised. Thus, stiff, argillaceous, (clayey,) soils, are often very materially benefitted by repeated plowings while lying fallow, as by this means the hard lumps become divided, air and moisture are freely admitted, and the land thus becomes well prepared for sustaining a vigorous growth of vegetation.

While all are willing to admit the advantages of a fallow, all are not agreed as to the manner in which these advantages are brought about. The explanation usually given by the unlearned is, that land, after producing several crops in succession, requires *rest*, and, like a wearied animal, is recruited by repose. But this explanation conveys an erroneous impression, and shows how easily the minds of many are satisfied by substituting a *comparison*, or a *name* for a *reason*. The term *rest* is certainly very improperly employed when applied to land in the same sense in which it is used with reference to animals. I will endeavor to explain to you, in accordance with the views of some of our best modern chemists, the process which Nature adopts to reinvigorate an exhausted soil.

I told you in a former number, that soils were originally formed by the degradation and decomposition, (crumbling and wasting away,) of rocky masses, and that the solid structures were originally composed of the same inorganic constituents as are found in the soil. Now the agency which reduces rocks to the form of powder, does not cease its operations when this change is effected, but continues acting upon the mineral particles until those portions essential to vegetable life are brought to such a state as to be soluble in water, when the roots of plants can readily imbibe and appropriate them, as needed.

The progress of this decomposition is slow, and when a field is required to furnish food for a crop every year, for a succession of years, it cannot be furnished as fast as it is needed; the supply is inadequate to the demand; and time is required to allow a new accumulation, or fresh supply. Although the necessary ingredients, or food, may be in the soil, yet it is not in such a form as to be available, and Nature refuses to change her laws, or to act more vigorously than she is wont, merely to gratify the inordinate cravings of her creature, man.

And now another question arises—Can a field *always* be kept in a state of fertility by careful fallowing? I reply, it cannot. The soil does not contain an exhaustless supply of those ingredients which our crops require, and though land can be induced, by fallowing alone, to produce abundant harvests for a limited period, yet the time must arrive, when, unless manure be supplied, barrenness will ensue. There are, as I have previously in-

formed you, sixteen elements belonging to plants, twelve of which must be furnished by the soil, and if any one of these which is required, be absent, the plant cannot mature though all other circumstances be favorable. Now, as by far the greater portion of all soils consists of matter which cannot contribute to the growth of plants, and as nearly every soil is lacking in a full supply of every ingredient which our crops require, it is unreasonable to expect perpetual fertility without returning, occasionally, to our fields a portion of those constituents which have been taken from them.

Before closing this article, I will add a few more remarks on the subject of fallow crops, or green manuring. As the crop plowed into the soil can only return to it the same inorganic ingredients which were drawn from it, we naturally inquire, what benefit can be derived from this source. The question is well worthy of consideration; for it would seem that if land can be thus enriched, it must disprove the theory that the fertility of the soil can only be preserved by returning to it, occasionally, new supplies of the matter which has been withdrawn. But the advantages of this system are only temporary, and may be thus accounted for:—

1. The bed of humus thus formed, improves the texture of the soil; allowing air and moisture to gain admittance, and these agents hasten that final decomposition of mineral particles which fits them for entering the circulation of plants.

2. The green, or fallow crop, draws nutritive principles from the air, especially carbon, and, (indirectly,) nitrogen, and these, becoming incorporated with the soil, are ready to aid in promoting the growth of the succeeding crop. (For farther particulars on this point, I would refer you to what I said on the subject of *humus* in my tenth number.)

3. The roots of the green crop, having penetrated to a considerable depth in the soil, lower than the plow has ever reached, have drawn from below such nutritive ingredients as had become deficient near the surface.

These constituents, after contributing to the formation of the stalks, leaves, &c., of the fallow crop, are again disengaged and left near the surface when this crop is buried in the soil, and are now within the immediate reach of the roots of the succeeding crop. Clover and buckwheat are well adapted for fallow crops on account of their roots extending to a much greater depth than those of most other cultivated plants.

The effect, thus produced, may be compared to that of very deep or trench plowing, as in both cases these ingredients, which lie below the reach of most plants, are brought near the surface. The roots also render the hard and compact soil beneath, into which they penetrate, more loose and porous, and thus, as in deep plowing, the texture is improved to a considerable depth. When, after sowing a fallow crop, the land is left for several years undisturbed, we must attribute much of the benefit afterwards observed to the decomposition of mineral portions, as above mentioned.

J. Mc KINSTRY.

Greenport, N. Y., April 1st, 1849.

FOREIGN AGRICULTURAL NEWS.

By the Steamer Europa, we are in receipt of our foreign journals to 2d June.

MARKETS.—*Ashes*, sales dull at present rates. *Cotton* same as per our last. *Flour* lower. *Corn* and *Meal* in good demand. *Lard* an advance of 6d. per cwt. *Rice* a trifle higher. In other products no change.

Money more in request, and a good demand for American Stocks.

How to Kill Ants.—Blow tobacco smoke into their burrows, which will drive them out, and then kill them.—*Gardeners' Chronicle*.

Guanos as a General Manure.—Peruvian guano is the best possible manure for all plants that require manure at all, provided the soil is kept "open," by digging in leaves, &c., from time to time. The best way of using it, is by pouring water over it, and using the solution thus obtained.—*ib*.

Death of Miss Edgeworth.—The celebrated Maria Edgeworth, the popular Irish novelist, died after a few hours' illness on Monday morning, the 21st of May, at Edgeworthstown, her native place, in the county of Longford, in her 83d year.

Interesting Discovery.—The Paris correspondent of the *Courier des Etats Unis* describes a marvellous discovery which has recently been made, relating to the important subject of coloring grey hair. This new system consists in bringing about the internal coloring of the hair. The discovery is borrowed from the Chinese, who have succeeded in reaching and transforming, by means of medicine and a peculiar diet, the liquid which colors the pilous system and giving to white and red hair a black tint, which maintains itself during the continued growth. It is by this method, it is said, that the Chinese have been able to claim the title from the highest antiquity of the black-haired nation.

Famine in Ireland.—The distress in the county of Clare is represented to be most dreadful. In the course of two days, there were twelve ascertained deaths from starvation, in the parish of Kilmury, Ibrickane, in which there are 1,500 people who have not a morsel of food, and who are not on the relief lists.

Naturalization of the Alpaca in France.—A company has been formed in France, under the direct sanction of the government, for the purpose of naturalizing the alpaca upon a large scale. It is thought that the Alps, the Pyrenees, and the mountains of Auvergne are admirably adapted for the support of very large numbers of this valuable animal, and will prove of immense benefit to the country. Since the wool of the alpaca was first introduced into France, its price has tripled, and it is expected to rise still more, especially as the Peruvians have adopted measures to cultivate a branch of commerce which is daily becoming of more value. In order to secure, if possible, a monopoly of the trade, the Peruvian government has prohibited the exportation of the animal.

Treatment of Bees.—Mr. J. Oates, of Tendring Hall, gives the following as his treating of bees:—I make a hole in the ground, then place an empty hive upside down, as nearly as possible the size of the one I intend to fumigate; I then place my little apparatus, which contains a piece of lighted fungus about the size of a hen's egg. When the smoke begins to rise, I place the hive which contains the bees over it; and then, with a cloth wrapped round them to prevent any escape of the perfume, in five minutes, they will be perfectly stupefied. I then give the hive two or three gentle taps, which will cause those that are hanging to the comb to drop into the hive below. I then spread a large white cloth and turn the bees on it, when I can examine them with perfect safety. I let them

remain until the second hive has undergone the same process. I add these, also, to those on the cloth. I then look for the queens, but have not at all times been successful in finding them. If I find both, I kill one; but my friends tell me this is not necessary, as I need not go to that trouble, for the bees will kill one themselves, and not have two mistresses in one house. I then mix them together and put them back into that hive which has the most honey in it. I consider this a better plan than burning them. Hitherto, mine have done well. I have done several for my neighbors, which have also done well, and they are at the present time strong.

A Fox Lair.—The keepers and laborers of Mr. Legh, of Adlington, suspecting that there was a brood of foxes in the park, set to work to dig them out on Saturday last, when they found six cubs; and in the course of their digging in the hole, they found the following ample stores provided by their parent in a greater or less state of preservation:—the remains of one barndoor fowl, of four pheasants, one wild duck, two leverets, eighty rabbits, one jackdaw, one thrush, five rats, two mice, and one lamb. Some of these were nearly whole and fresh, others in a state of decomposition.—*Macdesfield Courier*.

Greedy Asses.—Two donkeys lately strayed into a field near Ruthin, and attacked a stack of hay. They ate so far into the foundation that the stack fell over and buried them. The owner of the hay, seeing it in a heap, went to cart it home, when, to his surprise, he found the two asses under it. They were not much injured.—*North-British Daily Mail*.

Hydraulic Press for Raising Britannia Bridge.—On Wednesday, the 13th December, the large cylinder of the hydraulic press, intended to be used at Bangor, to raise the tubes of the bridge of the Chester and Holyhead Railway, was cast at the Bank-Quay Foundry, Warrington. This cylinder is, we believe, the largest ever made for hydraulic purposes, and weighs about 25 tons. It will have to sustain a pressure of upwards of 1,000 tons, when at work.

Tobacco Culture in Great Britain.—At a late meeting of the Royal Agricultural Society of England, the Duke of Richmond presented to the Council a specimen of the dried leaves of the tobacco plant, grown at Chelsea. His Grace also favored the Council with the following statement made by the party from whom he had received the specimens then submitted to the inspection of the members:—

Every person cultivating fruits, vegetables, or flowers, especially in the forcing department, have been plagued to keep their houses and plants free from the numerous aphides to which they are subject, and to effect this without injury to the tender plants under cultivation, tobacco is, at present, the only known safe and sufficient resource, and there are but few who have not found it more convenient and safe to make purchases of this essential article, notwithstanding its costliness, than trust to uncertain remedies. Among this number, the writer is obliged to place himself; but not until he had made many attempts to save or lessen an expenditure so unsatisfactory. Thus circumstanced, about the month of March, 1848, a gentleman, living in his immediate neighborhood, who had been induced to attempt the cultivation of tobacco for his own consumption, the use of which he had found it expedient to discontinue, kindly offered his remaining stock to the writer, for the purpose of fumigating his plant-houses; and, on making a trial, it was found a most valuable article for the purpose, and far excelling anything in efficiency he had ever before used. Information as to the mode of its preparation, and the particular variety, was fully obtained, and a determination to cultivate a sufficient quantity for all future purposes resolved upon.

Editors' Table.

MR. SOLON ROBINSON.—It is mere neglect on our part, that we have not, from month to month, chronicled the movements of this distinguished farmer and writer upon agriculture. In our last volume, we informed our readers that Mr. Robinson left his residence at Lake Court House, (now Crown Point,) Indiana, in November last, in his private carriage, with a pair of horses, on an agricultural tour and survey through the southern states, and also to act as our agent; since which he has passed through the intermediate states, between Indiana and Louisiana, and over much of the latter below New Orleans, then up through Mississippi, Alabama, Georgia, South and North Carolina, Virginia, Maryland, Delaware, and when last heard from, June 17th, he was in Pennsylvania. He will probably reach New York about the 1st of July.

We venture to say that not another man in the United States ever made such a tour, or gathered so much information as this enterprising traveller has obtained of the agriculture of his country. Sugar, rice, cotton, tobacco, hemp, flax, wheat, Indian corn, grass, and nearly all other North-American products have received his special attention, together with the general management of plantations, farms, stock, &c. He has taken copious notes during his long and fatiguing journey, the substance of which will appear from month to month in our paper.

What his course from New York will be, is somewhat uncertain. Information as to this, and some general remarks on his tour, will be published in our August number. In the mean time, we are happy to inform our readers, that, notwithstanding many a mishap and peril by flood and field, his general health has been good, and that he writes us in the best of spirits, happy as ever, in his patriotic and arduous undertaking.

GOLD DOLLARS.—These pretty little coins, which are somewhat smaller than half dimes, have recently been issued, in considerable quantities, from the United States Mint, and will prove exceedingly convenient for transmitting through the Post Office for the payment of *dollar periodicals*, &c., from those states not authorizing the circulation of small bank notes. A word to the wise is sufficient.

THE PLOW A BANK-STOCK HOLDER.—The plow, it is said, goes in for *banks*, although it holds but *one share*.

LONG-WOOLLED SHEEP.—We call attention to Mr. Reybold's advertisement of a superior lot of long-woolled bucks for sale. Mr. R. has taken great pains in selecting his sheep from the best flocks in England. He has bred them here with much care, and all those who have called to see them, speak highly of their excellent qualities.

MAPLE SUGAR IN VERMONT.—We learn that, the past season, on account of its cold and backwardness, has proved unusually favorable for the sugar crop, in Vermont, the trees averaging a yield of about four pounds of sugar each. Caleb Aldridge, of Sutton, from 1,700 trees, made 6,000 lbs. sugar; M. Noyes, made 2,000 lbs.; Woolston Brockway, from 300 trees, made 900 lbs.; Harlow Brooks, from 350 trees, made 1,300 lbs.; and Ferdinand Walker, of Lyndon, from 400 trees, made 1,700 lbs. These amounts are exclusive of the last run, or molasses, being all stirred sugars, equaling in color our muscovado, and are worth at least six cents per pound.

MACHINE FOR REMOVING THE BURRS FROM WOOL.—We have frequent inquiries for a machine for the above purpose, small enough to be run by horse power, and of so simple, yet efficient construction, as to be used by planters in the country. Will any of our readers, familiar with a good machine, inform us where it is to be had, price, &c.

GEORGIA BURR STONE.—The "Savannah Georgian" notices the existence of a burr-stone quarry, in Burke county in that state, near the line of the Central Railroad leading to that city. The stone obtained from this quarry, the only one of the kind yet discovered in the United States, is said to be equal and in some respects superior to that of the French quarries. A company has been organized, in Savannah, who are preparing to go extensively into the business of manufacturing millstones from it, and expect to be able to supply the demand of this country with as good an article as is now procured from France.

PORK PACKING.—The St. Louis Republican, in a late number, gives the total number of hogs slaughtered, this year, on the Mississippi, Missouri, Illinois, and other rivers adjacent thereto, at 568,760, and the total number in the entire west, at 1,581,000, being an increase of 81,000 over last year's killing. The number slaughtered in St. Louis was 90,000.

REPORT ON THE BREAD STUFFS OF THE UNITED STATES, made to the Commissioner of Patents. By Lewis C. Beck, M. D., 1849. This brief report embodies much valuable information on the comparative value of different varieties of wheat, Indian corn, &c., grown under a variety of circumstances. It also contains the results of several analyses of sound wheat, produced in our own country and elsewhere, the extremes of which stand thus:—

	Lowest.	Highest.
Proportion of water, in 100 parts,	11.75	14.05
" Gluten, " "	8.31	16.00
" Starch, glucose and dextrine, "	68.65	79.34
" Bran, - "	0.20	2.90

The highest proportion of gluten was found in a sample of Kubanka wheat, grown on the Kuban River, in the southern part of Russia. A sample from Floyd Co., Georgia, afforded 14.36 per cent.

The result of these investigations corroborate what we have before asserted, that the *gluten*, the *nutritive portion of the grain*, is more fully developed in a dry, hot climate, and when grown upon a rich soil.

The value of wheat for *nutritive purposes* does not depend upon its superior whiteness, as much of that which is of dark color contains a large proportion of gluten. Spring wheat, that uniformly brings a much lower price in market, is rich in gluten, and frequently of equal value with the best winter wheats, which sell at 15 to 30 per cent. higher. We regret that Dr. Beck has omitted all investigation of spring wheat in this report, as well as the comparative nutritive properties of rye, maize, buckwheat, barley, &c. We shall hope for full and minute information on each of these valuable grains, which he intimates he may give, in part at least, hereafter.

MONSTER APPLE TREES.—There is an apple tree on the estate of Mr. Joseph Briggs, on Federal Hill, in the town of Dedham, Mass., supposed to be about one hundred years old, which measures thirteen feet and a half in circumference, one foot from the ground, and eleven and a half feet, four feet from the ground. Its branches cover an area of about sixty feet in diameter. This tree is second only to that in Duxbury, which is sixteen feet in diameter a foot or two above the surface of the ground, is over one hundred years old, and bore, in one year fruit, which made ten barrels of cider, in addition to thirty barrels of apples put into the cellar.—*Boston Traveller*.

ARTESIAN WELLS.—The corporation of Charleston, S. C., are endeavoring to obtain water in sufficient quantity for the extinguishment of fires, by means of Artesian wells. In one instance, the earth has been perforated to the depth of 770 feet, through a bed of marl, without reaching water. In others, the water has been reached at a much less depth.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, JUNE 16, 1849.

ASHES, Pots,.....per 100 lbs.	\$5 50	to	\$5 63
Fears,.....do.	5 50	"	5 62
BALE ROPE,.....do.	9	"	11
BARK, Quercitron,.....ton.	23 00	"	30 00
BEANS, White,.....bush.	75	"	1 25
BEEFWAX, Am. Yellow,.....lb.	19	"	22
BOLT ROPE,.....do.	11	"	12
BONES, ground,.....bush.	40	"	55
BRISTLES, American,.....lb.	25	"	65
BUTTER, Table,.....do.	15	"	25
Shipping,.....do.	9	"	15
CANDLES, Mould, Tallow,.....do.	10	"	13
Sperm,.....do.	25	"	40
Stearic,.....do.	20	"	25
CHEESE,.....do.	5	"	10
COAL, Anthracite,.....2,000 lbs.	5 00	"	6 00
CORDAGE, American,.....lb.	11	"	13
COTTON,.....do.	6	"	10
COTTON BAGGING, Amer. hemp,.....yard.	15	"	16
FEATHERS,.....lb.	30	"	40
FLAX, American,.....do.	8	"	9
FLOUR, Northern, Southern and Western bbl.	4 18	"	5 12
Fancy,.....do.	5 50	"	6 75
Richmond City Mills,.....do.	6 75	"	7 00
Buckwheat,.....do.	—	"	—
Rye,.....do.	2 88	"	3 00
GRAIN—Wheat, Western,.....bush.	1 05	"	1 30
Red and Mixed,.....do.	90	"	1 10
Rye,.....do.	58	"	59
Corn, Northern,.....do.	60	"	65
Southern,.....do.	52	"	62
Barley,.....do.	52	"	55
Oats,.....do.	29	"	40
GUANO, Peruvian,.....2,000 lbs.	47 00	"	50 00
" Patagonian,.....do.	30 00	"	35 00
HAY, in bales,.....do.	35	"	50
HEMP, Russia, clean,.....ton.	215 00	"	230 00
American, water-rotted,.....do.	160 00	"	220 00
American, dew-rotted,.....do.	140 00	"	200 00
HIDES, Dry Southern,.....do.	8	"	9
HOPS,.....lb.	4	"	12
HORNS,.....do.	100	"	10 00
LEAD, pig,.....do.	4 70	"	4 75
Pipes for Pumps, &c.....lb.	5	"	7
MEAL, Corn,.....bbl.	2 87	"	3 00
Corn,.....bhd.	13 75	"	14 00
MOLASSES, New Orleans,.....gal.	20	"	26
MUSTARD, American,.....lb.	16	"	31
NAVAL STORES—Tar,.....bbl.	1 75	"	2 00
Pitch,.....do.	1 25	"	1 75
Rosin,.....do.	86	"	90
Turpentine,.....do.	2 31	"	2 62
Spirits Turpentine, Southern,.....gal.	32	"	33
OIL, Linseed, American,.....do.	53	"	60
Castor,.....do.	1 25	"	1 50
Lard,.....do.	60	"	70
OIL CAKE,.....100 lbs.	1 00	"	1 50
PEAS, Field,.....bush.	75	"	1 25
Black-eyed,.....do.	1 25	"	1 50
PLASTER OF PARIS,.....ton.	2 00	"	2 75
Ground, in bbls,.....of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,.....bbl.	9 00	"	13 50
Prime,.....do.	5 00	"	8 50
Smoked,.....lb.	6	"	12
Rounds, in pickle,.....do.	4	"	6
Pork, Mess,.....bbl.	10 00	"	13 00
Prime,.....do.	7 00	"	10 50
Lard,.....lb.	6	"	7
Bacon sides, Smoked,.....do.	3	"	4½
In pickle,.....do.	3	"	4
Hams, Smoked,.....do.	5	"	9
Pickled,.....do.	4	"	7
Shoulders, Smoked,.....do.	3	"	5
Pickled,.....do.	3	"	4
RICE,.....100 lbs.	2 88	"	3 50
SALT,.....sack.	1 17	"	1 30
Common,.....bush.	20	"	35
SEEDS—Clover,.....lb.	5½	"	—
Timothy,.....bush.	2 00	"	3 50
Flax, clean,.....do.	1 30	"	1 40
rough,.....do.	1 20	"	1 30
SODA, Ash, cont'g 80 per cent. soda,.....lb.	3	"	—
Sulphate Soda, ground,.....do.	1	"	—
SUGAR, New Orleans,.....do.	4	"	6
SUMAC, American,.....ton.	35 00	"	37 00
TALLOW,.....lb.	7	"	8½
TOBACCO,.....do.	3	"	8
WHISKEY, American,.....gal.	21	"	23
WOOLS, Saxony,.....lb.	35	"	60
Merino,.....do.	25	"	35
Half-blood,.....do.	20	"	25
Common do,.....do.	13	"	20

NEW-YORK CATTLE MARKET.

At Market.—1,500 Beef Cattle, (1,300 southern, the remainder from this state and east,) 50 Cows and Calves, and 4,000 Sheep and Lambs.

Beef Cattle.—The market is firm in prices. The sales run from \$7 to \$9 per hundred. The number of head on hand, unsold, is estimated at 175.

Cows and Calves.—These vary from \$22.50 to \$47.50.

Sheep and Lambs.—Sheep sold at 6½ cents to \$5.50 each; Lambs at \$1.50 to \$3.75. The number left unsold, 700.

REMARKS.—The past has been a very dull month and no change scarcely in prices.

The weather continued quite cold for the season till the 15th of June, when it came on hot. Although every thing is backward, still the crops are promising. Wheat and Rye never looked better. The former is now harvesting at the south, and turns out finely. Grass is very heavy on the ground. Potato and other root crops are growing well. Of fruit, we have good prospects.

The Cholera is among us, but in so mild a form as to occasion but few deaths and little alarm. No one has anything to fear who takes good care of himself.

To CORRESPONDENTS.—Communications have been received from James B. Davis, A. L. Elwyn, C., Solon Robinson, C. R., Synches Creek, M. W. Philips, Samuel Allen, and Reviewer.

To Destroy Rose Bugs.—S. R. of Newark.—Collect them in a bucket of water, and then crush or burn them to death.

ACKNOWLEDGEMENTS.—Premiums and Regulations of the New-York State Agricultural Society, for the Annual Show to be held at the City of Syracuse, September 11th, 12th, and 13th, 1849; An Address delivered before the Jefferson Agricultural Society, of Green County, Georgia, by James M. Davison, in November, 1848; also, several printed sheets from the forth-coming Transactions of the N. Y. State Ag. Society, from B. P. Johnson. Esq.

PERUVIAN GUANO

FOR Sale, at Bating Hollow, Long Island, by
Jy3t AZEL DOWNS,

VIRGINIA LANDS.

THE attention of Northern Farmers who wish to purchase in Fairfax County, Va., is invited particularly to two farms for sale, three miles east from Fairfax Court House, thirteen from Alexandria, and fourteen from the city of Washington. There are no buildings on either tract, but, by following the custom of the country, comfortable and temporary ones can be cheaply built. The soil is well adapted to farming purposes, and there is timber on them, near two sawmills.

These farms would sell in the north, for from \$50 to \$100 per acre, and can be bought here in a more pleasant and healthy climate, one for eight, the other ten dollars per acre, on easy terms, and a good title given.

Further information given, if requested, by T. R. Love, trustee, either personally, or by letter, (postage paid,) directed to Fairfax Court House, Va.

f. ff.

H. FULLER.

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Sept. 1yr*.

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WANTED by the last of October next, two Ayrshire heifers, from six to eight months old. They must be from approved milking families. Please to state price, delivered in this city.
Jy 3t SAMUEL ALLEN, 189 & 191 Water st., N. Y.

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PARSONS & CO., at Flushing, near New York. The proprietors of this establishment invite public attention to their large assortment of every desirable variety of Fruit and Ornamental Tree or Shrub. Their importations of everything new in Europe are annually continued, and they offer a very large variety of Ornamental Trees and Shrubs imported expressly for arboretums and pleasure grounds. Their collection of Roses is annually enriched by novelties from abroad, many of which may be found described in their new work on the Rose, recently published. Fruit Trees receive their particular attention, and are propagated under their personal supervision; this care, with their possession of extensive specimen grounds, in which is tested every variety of fruit they cultivate, enables them confidently to guarantee the genuineness of the varieties.

Their care in pruning and cultivation enables them also to send out thrifty and well-formed trees. From their large scale of propagation, they can offer to dealers very liberal discounts, where hundreds or thousands are taken. Orders or inquiries can be addressed to the proprietors at Flushing, near New York, where catalogues will also be furnished. They have established a Branch at Brighton Depot near Boston and by the entire success of their trees transplanted thither have thoroughly proved the superior adaptation of Long-Island Trees to the soil and climate of any part of New England. This they attribute to the perfect maturity attained by the wood before frost, which renders the trees suitable for transportation to any latitude.

At the season of transplanting, a salesman will be at their Brighton Branch to furnish those who may prefer obtaining their supply thence. mhlf

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FOR SALE. No. 18. 431½ acres on Stony Creek, 18 miles south of Petersburg, and 1½ miles west of the great Southern Railroad, with dwelling and out buildings; two thirds of this is rich bottom, well cleared and drained, and very productive of grain and grass. Price \$5 per acre. Terms very favorable. "a

No. 19. 495 acres adjoining, half cleared; the remainder in heavy timber. Price \$4.

No. 20. 264 acres adjoining, good soil and excellent meadow, on Stony Creek; has a house with two rooms, ½ acre cleared. Price \$4.

No. 21. 300 acres in Sussex county, 2½ miles from the railroad; half cleared; the balance in heavy oak and pine, adjoining the Sawmill Tract. Price \$3.50 per acre.

No. 22. 150 acres adjoining the above, on Sapony Creek, with grist and sawmills; a good location for a factory; ¼ cleared, with a farm house. Price \$2,500, in 1, 2, and 3 years; or \$2,000 cash.

No. 23. About 1,300 acres, 8 miles from Petersburg, adjoining a large tract settled by Jerseymen; it has good buildings; a gristmill, with plenty of water for a sawmill in addition. The open land is good and productive, and a large portion is in heavy timber. This may be had at a great bargain, on favorable terms.

No. 24. 2,000 acres near the Summit Depot, on the great Southern Railroad, 10 miles from Petersburg, mostly cleared, but with plenty of wood; it is well watered; the soil good and adapted to the growth of grain, grass and cotton; it has a large dwelling with every necessary outhouse, in good order. Price \$3 per acre.

No. 25. 1,000 acres on the Roanoke, in sight of Gaston, N. C. On this are three islands and other excellent low grounds, in good heart for wheat, corn, and grass; the river furnishes a very heavy water power, belonging to this tract. Price, \$6 per acre.

No. 26. 378 acres on Nottaway River, which affords fine and unfailing water power; it has one mill east of the railroad, ¼ cleared, the balance in good timber; the soil is excellent. Price \$2,000. Payments easy.

No. 27. 360 acres, one mile west of the railroad, with good house for a small family; ½ in cultivation, ¼ in good timber; it is 2½ miles from Stony-Creek Depot. Price \$3 per acre; half cash, the balance in 1 year.

No. 28. 927 acres, 19 miles southwest of Petersburg, on Stony Creek; ½ cleared, the balance in good timber; good grist and sawmills, near, which are also for sale; it is well watered and has a number of fine springs; the buildings are excellent, and much of the soil is now very productive; Price \$4.50 per acre; ¼ cash, the balance in 1 and 2 years.

No. 29. 700 acres on Stony Creek, 3 miles from Dinwiddie Court House; ½ cleared, the balance in heavy timber; it is well watered, has fine springs near the house; mills, churches, schools, and stores convenient. The dwelling and out-buildings are good. Price \$4 per acre; terms liberal.

No. 30. 350 acres, 4 miles southeast of Petersburg; 100 open and in good state of cultivation, the balance in wood; the dwelling is good and well situated, with a good garden.

No. 31. 150 acres, 12 miles south of Petersburg; 100 in cultivation, the balance in wood of original growth; there is a 2-story frame house with five rooms; plenty of marl near; it has on it an orchard of good fruit; it is within 3 miles of the railroad. Price \$1,200; ¼ cash, the balance in 1 and 2 years.

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No. 33. 566 acres on Appomattox River, 10 miles above Petersburg; about 150 acres in cultivation, with good meadow ground, heavy oak, hickory, &c., &c. Good house and out buildings, and heavy water power on the river, with canal to Petersburg. Price \$5 per acre.

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" $\frac{1}{2}$ "	" 1 " 14 "	6 do 6 "		
" $\frac{3}{4}$ "	" 2 " 8 "	8 do 4 "		
" 1 " "	" 3 " 8 "	10 do 8 "		
" 1 $\frac{1}{4}$ "	" 5 " 10 "	14 do "		
" 1 $\frac{1}{2}$ "	" 6 " 12 "	17 do 8 "		
" 2 " "	" 11 " "	19 do "		
" 2 $\frac{1}{2}$ "	" 16 " 12 "	27 do "		
" 3 " "	" 23 " 8 "	50 do "		
" 3 $\frac{1}{2}$ "	" 28 " "	59 do "		
" 4 " "	" 45 " "	80 do "		
" 4 $\frac{1}{2}$ "	" 49 " "	90 do "		
" 5 " "	Water Pipe	15 do 14 "		
" 5 $\frac{1}{2}$ "	" "	17 do 4 "		
" 6 " "	" "	34 do "		

Price of the above pipes from $5\frac{1}{2}$ to 7 cents per lb. Tinned pipe, $\frac{1}{2}$ cent per lb. extra.
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The Thrashers consist of a small spiked cylinder with a concave plane over it, and a level feeding table. There are several improvements in the overshot thrashers. 1. They admit of a level table for feeding, thus enabling the tenders to stand erect, and control the motion of the horse and machine by means of a brake, by which accidents are avoided. 2. In consequence of the spikes lifting the straw and doing the work on the top, heavy substances such as stones, blocks &c., drop at the end of the table, and are not carried between the spikes, by which they and the machine are broken. 3. The overshot cylinder does not scatter the grain but throws it within three feet of the machine. 4. This arrangement also admits of attaching a separator high enough from the floor or ground to allow all the grain to fall through it, while the straw is deposited by itself in the best condition for binding. 5. Neither grain nor straw are broken by this machine. 6. The cylinder is longer, which admits of faster and more advantageous feeding; it is smaller and with fewer teeth than ordinary thrashers, thus admitting of more rapid motion and faster work with less power; and the diminution of teeth in the cylinder is fully made up by those in the concave, which is stationary. 7. The separator is a great advantage in diminishing the labor of raking out the straw, as it leaves the grain in the best condition for the fanning mill. Three men, with a single power, can thresh 75 to 100 bushels of wheat or rye; or four men with a double power, 175 to 225 bushels of wheat or rye, or double that quantity of oats or buckwheat, per day. All the above are compact and can be carried where wanted complete, or they may be readily taken apart and packed for distant transportation by a wagon or otherwise.

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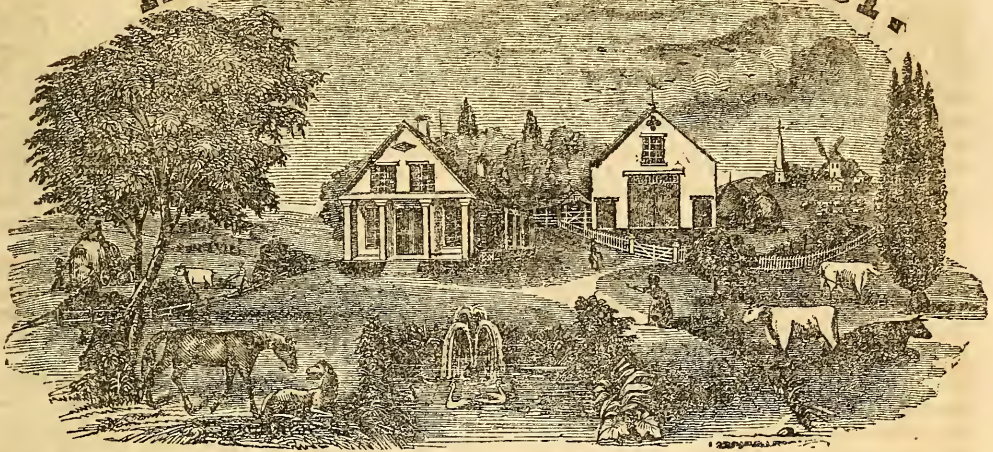
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AMERICAN AGRICULTURIST.



Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

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NEW YORK, AUGUST, 1849.

NO. VIII.

MESSRS. ALLEN, EDITORS.

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TO POSTMASTERS AND OTHERS.

UPON an examination at this office of the May number of the "American Agriculturist," printed in New York, at 121 Fulton street, it is decided, under the approval of the Postmaster General, that said publication is a newspaper, within the intent and meaning of the 2d and 16th sections of the Post-office act of Congress, of 3d March, 1845, being in its superficial dimensions not more than 1,900 square inches, and "conveying intelligence of passing events" in that department of the affairs and business of society to which the publication is devoted

S. R. HOBBIE,

First Dpt. P. M. Gen'l.

Post-Office Department, Contract }
Office, May 28th, 1849. }

WORK FOR AUGUST, NORTH AND WEST.

General Remarks.—Any portion of the work omitted to be done in July, or impracticable to be performed from the state of the climate, as recommended in our last number, may be accomplished this month, such as *cutting bushes and destroying weeds, composting manure, draining wet lands, sowing turnips, plowing for winter wheat, topping Indian corn, &c., &c.*

Gathering Seeds.—Now is the time to save many of your field and garden seeds—a duty always to be attended to with the utmost caution and care. The finest plants of each kind, having the largest seed vessels, should be selected, and the seeds should be gathered as soon as possible after they are ripe, and always on a fair day. After drying them in the shade, which will generally require but a few days, and separating them from the seed vessels, or husks, they should be barreled, bottled, or boxed up, and stored in a cool, dry place, until they are ready for sowing or for sale. Be sure

and save only the best, so that your future crops may improve rather than run out.

Sowing Winter Rye.—The earlier, this month, you sow your winter rye, the better it will be for the crop, as the roots will more firmly set, and better be enabled to withstand the pressure of frosts and thaws. Remember to plow deep, and thoroughly pulverize the soil. The quantity of seed may vary from one to two bushels per acre. If convenient, it would be preferable to sow and plow in each acre, 200 lbs. of Peruvian guano, well mixed with a bushel of plaster of Paris. After the seed is in, the ground should be harrowed and afterwards rolled.

Preparation for Sowing Winter Wheat.—As the period is approaching for sowing winter wheat, all necessary arrangements should seasonably be made. In breaking up the ground, let it be done thoroughly, and if guano be applied, it should always be plowed under to the full depth of the furrow, say from six to nine inches, according to the depth of the soil. Where only a single crop be the object, 200 lbs. per acre will be sufficient; but, where the permanent improvement of the soil is in view, 400 lbs. per acre will be necessary. In either case, a bushel of plaster of Paris may be mixed with the guano. The ground, previous to being sown, should be made as fine as harrow and roller can make it, as the more perfect the pulverization to which it is reduced, the better will be the chance for the wheat plants to thrive, and in the end the greater yield of grain.

Hoeing Potatoes.—If your late-planted potatoes have not already received their second hoeing, let it be done the early part of this month without delay.

Kitchen Garden.—Finish planting lettuce, Savoy and other cabbages for autumn or winter use. Sow turnips, spinach, and small salading early this month. Plant a crop of late celery, which continue to cultivate by drawing up earth. Sow watercresses in moist ground, which can afterward be overflowed with water. Hoe melons, cucumbers, and Lima beans.

Fruit Garden and Orchard.—This month is generally regarded as the proper time for budding apples, pears, plums, cherries, nectarines, apricots, almonds, walnuts, &c. Keep the ground about your nurseries, and grape vines loose and clean.

Flower Garden and Pleasure Grounds.—Transplant from seed beds the various kinds of flowers that were omitted last month. Plant the bulbs that have begun to vegetate, such as amaryllises, lilies, &c. Keep the earth loose about dahlias. Take up, separate, and transplant the roots of peonias and other tuberous-rooted plants, the leaves of which have decayed. Plant the seeds of polyanthus, cowslips, &c. Clip hedges; mow lawns; clean gravel walks.

WORK FOR AUGUST, SOUTH.

General Remarks.—Several of the hints given this month for the work north and west will also apply to the south, as *cutting bushes and destroying weeds, composting manure, draining wet lands, sowing turnips, and gathering seeds.*

Picking Cotton.—About the middle of this month,

cotton will have sufficiently ripened to burst its covering, and will bear to be picked. In the mean time, make it a matter of special attention, to have everything in readiness, in order that there may be no detention. Examine baskets, sacks, gin stands, running gear, presses, &c., and if anything requires repairing, let it immediately be done. Should the cotton be tardy in ripening, open the branches to the sun, that a freer circulation of air may pass through them, which will cause the bolls to open sooner, and not rot in consequence of rain or dew.

Cutting Fodder.—Cut crab grass and throw it into heaps, there to remain for a day, and then into heavy windrows until cured. Gather fodder from late-sown corn.

Harvesting Rice.—As soon as three or four of the lowermost grains of your rice begin to turn yellow it may be cut and carefully stacked. Be careful to shut off the water from the fields, a week or ten days before you begin to cut.

Harvesting Tobacco.—Tobacco plants should be cut as soon as they have come to maturity. This may be known by the leaves becoming mottled, coarse, and of a thick texture, and gummy to the touch. The ends of the leaves, also, by being doubled, will break short, which they will not do to the same extent when green. They should not be cut in wet weather, as then, they lose their natural gumminess, so necessary to be preserved. When the harvesting is to commence, procure a quantity of forked stakes, set upright, with a pole, or rider, resting on every two stakes, in readiness to support the tobacco, and keep it from the ground, when cut. The plants should be cut obliquely, even with the surface of the ground, and should receive two or three smart raps with the back of the knife, in order to remove the sand, or soil, from the leaves. Then they may be tied two stalks together, and gently placed across the riders, or poles, where they should remain in the sun until they become wilted. They should then be carried into the drying house, and strung upon frames, leaving a small space between each plant, that air may circulate freely, and promote the drying. As the latter process advances, the stalks may be brought closer to each other, so as to make room for others. Exclude, as far as possible, all damp air, and be equally guarded against the admission of all drying winds, so that the operation may not be too rapid, unless the season be rainy, when, the sooner it is effected, the better. As soon as the middle stem becomes quite dry, the leaves may be stripped and put in bulk to sweat. This may be done more conveniently in cloudy weather, when the leaves are moist, and more easily handled. The leaves should be assorted according to their qualities, with their stems all kept in one direction, in the bulk, which should be two or three feet high, and of any convenient length and breadth. To guard against the tobacco becoming overheated, and to equalize the fermentation, or sweating, after the first twenty-four hours, place the outside leaves in the middle of the pile, and those of the centre to the outside of the bulk. By doing this, once or twice, taking care to exclude the air from the pile, and leaving it in this state for about forty days, the tobacco will acquire the odor and other qualities desired.

Kitchen Garden.—Sow beets, carrots, dwarf, early and pole beans, southern and northern cabbages, cauliflower, lettuces, turnips, broad-leaved endive, lentils, mustard, roquet, parsneps, radishes, (long and round,) spinach, peas, and split onions. Transplant cabbages, tomatoes, and celery. Water them in the evening, if the weather be dry.

Fruit Garden, Shrubbbery, &c.—Inoculate fruit trees of this year's growth; procure none but the best and the choicest varieties. Prune peach trees and other stone fruits. Plant out fig trees, and shade their roots with straw.

TO WOOL GROWERS.

A PURSE of \$100 having been offered for the 25 best Merino ewes, and the 25 best Merino lambs, under one year old, by a private gentleman, the exhibition to be at the Fair of the New-York State Agricultural Society, I purpose to be a competitor in that exhibition, against any and all flocks of Merino sheep that may be brought against me. I give this out, not as a challenge, but simply as a proposition, which shall call forth my brother farmers throughout the length and breadth of the land. My object is to convince myself where the best Merino sheep are. If I have not got them, I must have them; for I am resolved to improve from the best, whatever may be the cost. By a fair and manly competition, we may compare the best specimens from the best flocks; and by that means learn where the best sheep are to be found.

For a series of years, I have spared no pains and expense to possess myself of the best sheep of the pure Merino race, the United States could afford, or to be found in the Old World. It remains to be seen whether these efforts have been successful; and to this end, I earnestly invite the Merino wool growers, throughout the Union, to meet me on the show ground, at Syracuse, next September, in honorable competition, to compare the 25 best ewes, and the same number of lambs from our respective flocks, and thus add another feature to this somewhat national exhibition, which will be made at the New-York State Fair. A. L. BINGHAM.

Cornwall, Vt., July 16th, 1849.

NATIONAL CONVENTIONS OF FRUIT GROWERS IN THE UNITED STATES.

WE have noticed a good deal of personal feeling on the subject of the title claimed by two very worthy assemblages of fruit growers, one of which met in Buffalo, N. Y., in September, and the other in the city of New York, in October last. Two Hotspurs are already in the field, and if the spirit continues, we may soon have enough to tax all the valor of Jack Falstaff to "pepper," into silence. For our own part, we say, let them both be *Nationals*, "an' they will." We have not less than ten thousand Generals, thrice the number of Colonels, and any quantity of Majors, Captains, &c. Then, why not two or more *National* bodies of fruit growers?

But badinage apart. We think, of all absurdities, this idea of a set of enterprising, liberal-minded horticulturists, getting by the ears about a name, is the most ridiculous. The peculiar folly we note about it, (and it is an egregious one,) is, that any intelligent set of men should have adopted it at all.

We might with equal propriety get up a National Society of the occupants of Latitude 40° to 41° inclusive, or 30° to 35°. The state of Rhode Island, which embraces a territory of about 40 miles square, (we think our juvenile geographies gave it as 37 by 47,) might very well have its *State Convention* for growing fruit, without committing any great error, and, perhaps, Delaware. But Massachusetts could not consistently, much less New York, nor the whole of any two adjoining states.

This is self-evident to any person of intelligence and observation. Take for instance, the grape in its most favorite clime. You will find it in one vineyard, producing a wine quite unlike that in one adjoining, though of the same variety; and the ripened fruit on one side of a hill would hardly be recognized as the same grown upon its opposite. This is true of the peach, when produced at the north and south, in our own country. Scarcely any apple is more tempting than the Rhode-Island Greening, of New England, yet we have seen many of them in western New York, that were utterly insipid and worthless as a delicacy or luxury to a practised taste.

Nothing is more certainly established by the actual experience of every intelligent man, who has travelled through our country, or even had much experience on his own farm, than the constantly varying character of many of our fruits. A tree will change materially in the flavor of its product, even when standing still. Youth, maturity, and age, in the tree, each make a difference—its health or disease—seasons—richness or poverty of the soil—peculiarity of manures, &c. It is true, that amid all these changes and vibrations in fruit, there are still numberless general characteristics and principles, which are applicable, with slight modifications, throughout the country, and to ascertain and clearly define these would certainly be a desirable object; if there be sufficient leisure in such a body, as would be likely to be brought together. But we should much prefer relying on the deliberate opinions and researches of one man of science and experience, who could weigh his own opinions carefully, and who would assume the entire responsibility of giving them to the public, than on the hurried decisions that were made in a mixed assembly, *viva voce* or by ballot. Whenever we come to define the exact character or comparative value of any one species of fruit, for all parts of the Union, we shall have approached the very climax of absurdity.

We say then, nor claim oracular wisdom by the assertion, but only the expression of the most ordinary and obvious common sense, let there be as many conventions as there is spirit or zeal for assembling; but let each give to itself a name indicative of its locality and the specific objects for which it is called together. Tell us whence the delegates come, and the relative value of the different varieties of fruit in particular sections. Let them give us their experience for certain latitudes and longitudes; describe to us the latitude, soil and treatment; and if this shall have been intelligently and carefully done, we shall have precise, definite, and local data, which will be of vast general and national benefit, *because it has been both local and detailed.*

THE COW—HER DISEASES AND MANAGEMENT.— No. 15.

Looseness, or Scouring.—This disease is not unfrequent with cattle at all seasons of the year, as it arises from a variety of causes. It is very liable to proceed from an acrid state of the bile, which the appearance of the stools will show, although it may be produced from over-heating, the fluids being driven from the surface towards the bowels; but it more frequently arises from errors in diet than from any other cause. Thus, food given hotter than it ought to be will occasion the complaint; and a want of proper nourishment will produce the same effect. Hence, cows long denied their customary support are generally afflicted by this malady.

The disease consists in a frequent discharge of the contents of the bowels, which varies in its appearance during its progress, being generally of a liquid form, sometimes slimy, at other times black and bilious, and occasionally of a watery, frothy, consistence. The animal has generally a bad appetite, the pulse weak and low, the skin dry, soon becoming tight to the ribs, the countenance appearing dull, and accompanied by a degree of slow fever with much thirst. On opening the body, after death, the gall bladder will be found full of a thin, acrimonious fluid, the part of the bowels near it showing several putrid spots, and the whole intestines will be more or less inflamed. Besides this, the ulcerations are sometimes so extensive that callous pieces, equal in size to one's fist, have been found in the bowels, which has given rise to the names of "rottenness," and "garget in the guts." When laboring under this disease, cattle are very sensible to the impressions of weather, and generally seek shelter, or cover, wherever it can be found.

Whatever the cause of this malady may be, the commencement of the treatment should take place first, by clearing out the bowels, and discharging any acrid matter contained in them, which may tend to keep up irritation. This may be done by the use of the following saline purge, notwithstanding some degree of looseness may prevail at the time:—

Take of Epsom salts, $\frac{1}{4}$ lb.; saltpetre, $\frac{1}{2}$ oz.; camphor 3 drachms; coriander and cummin seeds, $\frac{1}{2}$ oz., each.

Mix the whole into a powder, and give it to the animal in two quarts of water gruel, sweetened with half a pint of molasses. When this medicine has operated, remedies opening to the skin may be administered and continued, among which the following is recommended:—

Take of camphor $\frac{1}{2}$ drachms; salt of tartar, 3 oz.; saltpetre, $\frac{1}{2}$ oz.; Mithridate, $\frac{1}{2}$ oz.

To be mixed and given at one dose in two quarts of water gruel, in which one ounce of soap has been previously dissolved. If the symptoms of the disease demand it, the dose should be repeated one or twice a-day. As soon as the stricture or dryness of the skin is removed by the above-named medicines, and the complaint is only kept up by the weakness of the bowels, the cure then, but not till then, may be trusted to the use of the following astringent:—

Take diascordium, $\frac{1}{2}$ oz.; dragon's blood, $2\frac{1}{2}$ oz.; powdered ginger, $\frac{1}{2}$ oz.; grains of Paradise, 3 drachms.

To be mixed and given at one dose in a pint and a half of the following decoction, and repeated once a-day:—

Take of logwood chips, $4\frac{1}{2}$ oz.; camomile flowers, 3 oz.; valerian, $\frac{1}{2}$ oz.,

which must be boiled in three quarts of water till one half is wasted by evaporation.

The above mode of treatment will always succeed whenever the disease has not advanced so far that the bowels of the animal have arrived at a state of ulceration, in which case, it commonly proves fatal, and she lives till she is reduced to skin and bone.

During this complaint, the cow should be kept particularly warm, and both her food and drink should be given with the chill just taken from them. The food should also be of the same nourishing kind so often recommended on former occasions, as warm washes of malt, Indian meal, &c.

MR. HOLBERT'S DAIRY, CHEMUNG, N. Y.

We copy the following statement on butter making from the Transactions of the New-York State Agricultural Society, for 1848:—The dairy and farm to which reference is made belongs to Mr. John Holbert, and is located in the town and county of Chemung, New York, adjoining the Pennsylvania state line; elevation about 800 feet above tide water, and at 42 degrees north latitude.

The farm contains 200 acres of land, which was farmed the past season as follows:—I have kept and milked 40 cows, and my grain pastures and meadows are as follows:—24 acres of wheat; 8 of buckwheat; 10 of oats; 20 of corn and potatoes; 2 of summer fallow; 40 of meadow; 74 of pastures; 22 of wood and waste land. The soil is a gravelly loam, with a slight mixture of black sand; subsoil the same. I use no roots nor slops for my cows; all that I feed them is hay and grass, and corn stalks. My pastures are clover and Timothy, and hay the same; and my meadows produce from one to two and a half tons per acre per annum. I sow plaster on all my pastures and meadows every year, and use the Cayuga plaster.

Breed of Cows.—My cows are generally the common breed. I have a few that have a slight mixture of Durham blood in them. Their ages will range from three years old to twelve. I prefer a cow not less than five years old for the dairy, and as much older as she winters well. I change pastures often, and think it a good plan to change twice a week. Too much care cannot be taken to have your cows well watered and salted. I keep a large watering trough in my cow yard, where I very frequently observe cows drinking large quantities of water immediately after coming from the brook. I keep salt lying in the yard the year round.

Making Butter.—I take care to have my cellar thoroughly cleansed and whitewashed early every spring. I keep milk in one cellar and butter in another. Too much care cannot be taken by dairy-men to observe the time of churning. I usually churn from one hour to one hour and a half. I put from one to two pails of cold water in each churn, before commencing to churn, and one pail more in each, when nearly done, in order to thin the

milk, and make it produce all the butter it contains. When done, take the butter out, wash it through one water, then set it in the cellar and salt it; then work it from three to five times before packing. Butter should not be made quite salt enough until the last working. Then add a little salt, which makes a brine that keeps the butter sweet. One ounce of salt to a pound of butter is about the quantity I use. I pack the first day, if the weather is cool; if warm, the second day. If the milk is too warm when churned, the quantity of butter will be less and the quality and flavor not so good as when it is cool at a proper temperature. I have always worked my butter by hand. Last fall, I bought a butter worker, but I disapprove of its use entirely, and recommend the hand ladle in its stead. In packing, I fill my firkins to within two inches of the top; then lay a clean cloth on the top of the butter, and put salt on the cloth and keep it covered with salt and brine all the season. Great care should be taken not to let the milk stand too long before churning; as, in that case, in hot weather, it becomes too sour, and the butter will be sour also, and in cool weather, it becomes bitter; all of which can be prevented in cool weather, by putting about one quart of buttermilk in each pan or tub before straining the milk, and in hot weather, by churning as soon as the milk becomes thick and moist on the top of the cream. I use the Turk's Island salt of the Ashton sacks. I have never used any of the solar evaporated salt, nor steam refined salt from the Onondaga salt works.

Experiments.—I tried several experiments in making butter the past season, among which are the following:—Commenced making butter about the first of April, and up to the 4th of May, made 512 pounds of butter. May 5th, 1848, commenced packing for fall market, and closed about the 15th of December. June 15th, drew the milk from thirty-seven cows; morning's mess, 525 pounds; evening's mess, 632 pounds of milk; in all, 1,157 pounds of milk, making 3 pounds 11 and a half ounces of butter, to 100 pounds of milk. June 20th, had three more cows come in, which made my dairy full. My cows commence coming in, or calving, in March, and do not all come in until the middle of June, as was the case this year. My dairy was not full until the 20th of June. I do not rear all the calves, but generally save a few of the finest. This year I reared six. I keep swine to consume the buttermilk.

I drew the milk from five cows for 30 days in succession, commencing with the 28th day of May, with the following result:—I made 248 pounds of butter from five cows in 30 days. On the 11th day of June, I drew from five cows 187 pounds of milk, which made, when churned, 8½ pounds of butter. I churn all the milk, and churn by horse power, and usually churn four one-and-a-half barrel churns at once.

On the 8th day of August last, I drew the milk from forty cows; in the morning, I got 508 pounds, and in the evening, 519 pounds; in all, 1,027 pounds of milk, which, when churned, made 39 pounds of butter. The morning's mess made 3 pounds and 14 ounces of butter, from 100 pounds of milk, and the evening's mess made three pounds and 10 ounces of butter from 100 pounds of milk. I

find that the morning's mess of milk made four ounces more butter than the evening's did from 100 pounds of milk. I also find that the difference between the morning's and evening's milk is not so great as it was for the last year, for the reason that the messes are nearer equal; the quantity from each cow is as follows, August 8th, 1848:—

No.	Morning. Evening.		No.	Morning. Evening.	
	14 lbs.	13 lbs.		12 lbs.	13 lbs.
2.	10	11	22.	11	13
3.	13	12	23.	13	14
4.	14	13	24.	12	13
5.	13	13	25.	11	11
6.	14	14	26.	11	12
7.	13	14	27.	9	9
8.	15	14	28.	13	14
9.	10	9	29.	15	16
10.	12	12	30.	14	14
11.	13	14	31.	18	15
12.	16	15	32.	12	13
13.	11	12	33.	13	14
14.	11	12	34.	16	15
15.	13	13	35.	10	12
16.	14	17	36.	13	15
17.	14	11	37.	10	10
18.	12	11	38.	14	15
19.	13	13	39.	12	12
20.	12	13	40.	14	14

On the 11th of August, I drew the milk from twenty cows, and weighed and churned it separately, which resulted as follows:—

No.	26 lbs. milk.	1 pound	8 oz. butter.
2.	25	"	10
3.	27	"	6
4.	28	"	2
5.	30	"	"
6.	23	"	4
7.	31	"	8
8.	28	"	1
9.	27	"	"
10.	26	"	3
11.	28	"	12
12.	24	"	4
13.	29	"	14
14.	19	"	14
15.	16	"	12
16.	17	"	8
17.	21	"	14
18.	33	"	15
19.	31	"	"
20.	31	"	"

The above table shows the difference between the milk of different cows. I find by churning the milk separate, that one of my best cows will make as much butter, as *three of my poorest* giving the same quantity of milk. June is a much better month for making butter than July or August, as I made one hundred and seven pounds more butter from thirty-seven cows in June, than I did from forty in July. I find, also, that one hundred pounds of milk drawn from my best cows, (that is, those that give the richest milk,) will make *one pound more butter* than one hundred pounds drawn from the whole herd. There is more difference in *quality* than in quantity. For making butter, it will pay all dairy-men well to look to the quality of milk their cows give. One cow well kept, is worth two cows poorly kept, for dairying. I am inclined to think

that too many farmers overstock their farms, and consequently kept their pastures too short; as lands that are kept with a good coat of grass on them through the season stand a drought much better and produce pasture earlier the next season, and cows will do better on them, than on shorter feed.

Quantity of Butter Made.—As I have said before, I commenced making butter about the 1st of April, and up to May 4th, made 512 pounds; then commenced packing for the fall market. Made in May, 26 days, 747 pounds; in June, 30 days, made 1,186 pounds; in July, 31 days, 1,079 pounds; in August, 31 days, 1,016 pounds; and from September 1st, up to December 15th, three and a half months, 1,948 pounds, which is about the close of the season for making butter. I sold my dairy this year to R. Clearwater, at 183 Washington street, New York, on the 30th day of November, for 23 cents per pound, which amount was 5,030 pounds; the spring butter, and butter that was sent to the different fairs, and the butter that was made after the dairy was taken off, amounted to 1,450 pounds, the whole averaging 23 cents per pound, amounting in cash to \$1,492.24; that is, over and above family use—and our family will average over eight in number—and which finally makes an average of \$37.30 per cow, including heifers.

* I sold my dairy last year to C. Adams & Co., at 224 Fulton street, New York, for 24 cents per pound. I am told by them that it went south and stood the climate well.

JOHN HOLBERT.

Chemung, Dec. 25th, 1848.

CONSTRUCTION OF WHEELBARROWS:

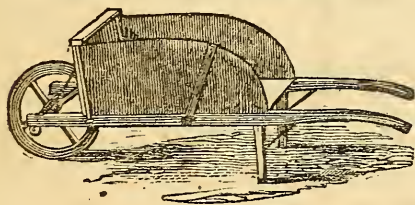


FIG. 53.

THE greater the diameter of the wheel of a barrow and the smaller the axes, or ends of the gudgeons, on which it turns, the less power will be required to drive it forward; for the leverage is thereby augmented and the friction materially reduced. The diameter of the wheel might be increased with manifest advantage to double that now generally employed; for, even then, it would be below the point of draft, or impulsion, (the hands of the laborer,) and the nearer it can be brought to a level with this, the more efficiently he can exert his power. The breadth of the felloes, or periphery, of the wheel, might also advantageously be increased one or two inches over that in common use, as it is generally employed upon a surface in some degree soft, in which case, such an increased breadth would diminish the depth the wheel of a loaded barrow usually sinks into the soil, and would evidently decrease the power required to overcome the resistance it would meet. In a wheelbarrow, thus constructed, a man might move, with more ease, 800 lbs. weight, than he now impels 500 lbs. by the usual mode.

If a wheelbarrow be made of wood, the feet and handles should be clasped with wrought iron, and its joints strengthened with bands of the same metal. If so guarded, it will outlast two others left unprotected. Barrows are now frequently employed in England, constructed entirely of wrought iron, weighing only 92 lbs., which are but little heavier than those commonly made of wood. The wheels are 16 inches in diameter, with the ends of the gudgeons, running in brass bearings, and the face of the felloes about three inches in width.

PRESERVATION OF TIMBER.

FOR some years, few things have occupied the attention of the British and French governments more than to devise some plan by which their ship timber could be saved from decay. The dry rot, in France and England, has been a matter of as much national complaint, as the corn laws, tariff, game laws, or any other of the various sources of excitement that serve to keep a people alive to their interest. But everything seems to have failed; and the dry rot has preserved its empire in its particular sphere, as firmly, to all appearance, as the Czar of Russia is now doing among the crumbling monarchies of Europe. Nothing has for any very long time shaken its dominion. Within a few years, a French gentleman, M. Boucherie, has, by a series of experiments, seemingly done a good deal to disturb its authority, and to hold out a hope that it may be entirely driven from power.

An idea of the extreme importance of such a result may be formed, when it is remembered that France has no colonies from which she can bring timber—that her population, by its rapid growth, requires every inch of land for agriculture—that her large forests must necessarily disappear, and that, whether for war or commerce, she will become dependent on other countries for her ship timber. She already imports more than \$6,000,000 worth a year of this article—a state of things, which, in time of war, with any strong naval power, would rapidly destroy her fleet, unless so fortunate as to recruit it, by capture from the enemy. It is not, then, surprising, that both France and England, but particularly the former, should regard, as a matter of vital interest, the preservation of her wood, and encourage, in every way they can, every mind that is disposed to take up the subject. Heretofore, failure has arisen from two causes—the one, that the articles employed were only partially successful; the other, that they were too expensive for constant and general use. The first thing necessary, then, in opening a series of experiments, was to find some substance that was not only perfectly calculated for the purpose, but economical. But before attempting this, it was necessary to know what were really the causes of decay. M. Boucherie thinks that he has ascertained, by experiment, this important principle, “that all the alterations which wood presents, are due to the soluble matters which it contains.” When brought into contact with a certain quantity of water, the action of which is aided by a proper temperature, they have the power of becoming heated, decomposed, and furnish a corrosive liquid that penetrates the woody fibre, alters its

structure, destroys its resistance, and transforms it into a substance, presenting many of the characters of ulmic acid. These soluble substances also afford nutriment to the various insects or animals which destroy woods.

The inference, naturally and necessarily to be drawn from these experiments was, that to preserve wood, these soluble matters must be altogether removed, or rendered insoluble. The first of these was attended with difficulties that made it impracticable; and all that was left, was to find some substance that would bring about the result. The impure pyrolignite of iron was fixed on, and appears, in the course of the experiments, to have fulfilled every purpose; the muriate of lime and common salt, also, were as efficacious in the preservation of wood, as the other salt, where the wood was not exposed to moisture. But a mode of introducing these solutions into the most remote fibres of the tree, was also to be devised; and this led M. Boucherie to consider whether the usual circulation of the tree, did not continue after it was felled; and whether this could not be employed to carry the various matters with which he was experimenting. The idea proved a fortunate one, and met with entire success. Six days, in September, a poplar tree, ninety feet in height, and fifteen inches in diameter, the foot of which was immersed eight inches into a solution of pyrolignite of iron, was entirely impregnated by the liquid. The same result was produced when the tree was on the ground, and also before it was cut, by inserting the fluid into excavations made in the trunk. A question presents itself, at this point, in the experiments, which it is important to decide—whether the absorbing power is the same at all periods of the year. It seems that there is no period in the year, in which the sap does not circulate. Even in winter, though not with so much strength as at other periods of the year; and what is, or appears to be singular, the spring, in which the circulation is, or is supposed to be, the most rapid and vigorous, is the least favorable time for the impregnation of the tree with these solutions, and autumn the best. Among the conditions necessary for success, one is, that the terminal foliage must be left on the tree, though all the other branches are removed; and another, that as little delay as possible is admissible, before the impregnation of the tree has commenced.

In the progress of these experiments, M. Boucherie has formed the conclusion, that the best time for felling timber, for its preservation, is the summer or autumn; but the winter, the season which has been selected for ages for this purpose, he conceives the most pernicious. There is one thing wanting in these results—that is, to know how long wood will last after being thoroughly impregnated. A vessel of war lasts, in time of war, eight years; in peace, fourteen. How, then, has M. Boucherie discovered a process by which these periods may be doubled? In ships, where several hundred men are crowded together, the heated and bad air, must always affect the timber, and dispose it to decay. How is this to be prevented? And if impregnation with a solution of pyrolignite of iron should do it, does it not render the wood so hard, as to make it extremely difficult

to work? The solutions of the other two salts, render wood pliable; but then, it must not be exposed to wet. Though, for all other building purposes, except ships, it would be made less liable to crack and gape, as it now does by the changeable character of our climate. No seasoning has ever yet been able to prevent these two deformities to house architecture, and so ruinous, too, to furniture. There still remains, apparently, a portion of water, perhaps absorbed from the atmosphere, even after every process has been gone through to expel it.

A. L. ELWYN.

Philadelphia, May, 1849.

SUGGESTIONS IN THE IMPROVEMENT OF SLAUGHTER HOUSES.

His Honor, Mayor Woodhull, of our city, in his late message, has suggested the establishment of public slaughter houses, upon a plan resembling that of Paris. Under the present system of uncontrolled license, as is generally practised here, not only is our sight shocked and our olfactory organs offended by the too frequent occurrence of private slaughtering establishments, but, moreover, a mightier consideration is neglected—the purity of the article vended can with no certainty be determined. We insert, for the benefit of our readers, the following remarks on the method of arrangement and construction, adopted by the Parisians in the matter of their abattoirs, and the manifold advantages arising therefrom, which we most sincerely recommend to the attention of all our cities and populous towns:—

All meat, from animals slaughtered within the limits of the city of Paris, is prepared for market under the immediate supervision of municipal officers, at four great abattoirs, (slaughter houses,) situated in distant and unfrequented sections of the town, and most generally upon very elevated ground. The buildings, used for the purpose, are situated within a public park, near the magnitude of Washington square, in New York, surrounded by a wall, and entered only through one large gateway. At the portal, stand the officers, or the persons employed in the supervision of the establishment. As each animal is brought in, it is carefully weighed, registered, and a veterinarian examines its condition. If pronounced diseased, it is either condemned or consigned to a species of hospital within the grounds. Every carcass, after being in due manner operated upon, is weighed and examined, in like manner, before leaving the gates; the government being thus responsible to the butcher to render him an account of the products of his labor in meat, grease, hides, and even the offal. The cattle are kept in stables, each holding about a hundred head, rivalling in cleanliness those of a racing stud; the beasts are, moreover, permitted to graze within the enclosure, and are led to drink at large fountains of perpetually flowing water. The slaughter houses are detached, and at some distance from each other. The animals are killed, either by butchers employed by the municipal authorities, or the owner can hire a portion of one of these general buildings for his own use, subject to the official supervision.

After being killed, the smaller animals are skin-

ned in the open air, upon wooden frames resembling gigantic gridirons. They are then examined by a good practical physician while resting on the frames. A number of separate tenements contain apartments for the preparation of the hides and other marketable materials, the perquisites of the butcher's art. An immense reservoir disseminates pure water through the entire abattoir, and the blood is carefully collected in tubs, and never allowed to flow. Thus, at a trifling expense, which is charged upon the vender for slaughtering, &c., the public are guaranteed a pure article of food, and the many evils of our system entirely avoided.

The butchers' shops in Paris, are likewise destitute of doors and windows; the entire front being composed of an iron railing, which is closed at night, only for protection against theft, allowing a free circulation of air around the meat at all times. These retail establishments are daily visited, at the opening and close of business, by subordinate agents, who compare the vouchers of the abattoir with the stock on hand; and hence, any attempt at fraud, or the vending of inferior meat, is completely frustrated.

If a similar system were adopted in this country, not only would these buildings be made a source of revenue to the cities or towns themselves, but, in addition, it would even tend to cleanliness and consequent healthiness, and what is of equal moment, the purity and wholesomeness of the articles consumed by the inhabitants.

TO RAISE GOOSEBERRIES.—There is great difficulty in raising healthy stalks and well-ripened gooseberries in this country, which, we think, is owing to a want of the requisite humidity in our summer atmosphere. In damp situations, as in Scotland and the north of England, they are generally prolific and healthy. We lately saw some splendid specimens on Mount Ida, Troy, N. Y., in the garden of Mr. Vail. He attributed his success entirely to placing a good coating of salt-marsh hay around the stems. This has a double effect in accumulating moisture, as both the salt and hay, in this position, are efficient agents for the purpose. We have also seen an immense production of the fruit of gooseberries from placing a pint of salt-petre about the roots. Ashes and plaster have likewise the effect of greatly increasing humidity, whenever applied; and each of these we should deem a good substitute for salt hay.

SETTING OUT TREES IN SANDY SOILS.—Trees have frequently been made to grow in dry, sandy soils, by placing a considerable quantity of rubble stone over the roots, which have first been slightly covered with good soil. An ample excavation of the original soil, both in depth and width, should first be made; then throw into the hole well-rotted turf or swamp muck, on which the roots should rest. Cover these slightly, and add the loose stones freely, over which additional fertile earth should be placed, well mixed with wood-ashes. Peach trees, willows, and other trees have been made to live when thus set out, where they had invariably died before.

SUMMER MANAGEMENT OF SHEEP.—No. 2.

Ticks.—These, when very numerous, greatly annoy and enfeeble sheep, in the winter, and should be kept entirely out of the flock. After shearing, the heat and cold, the rubbing and biting of the sheep soon drive off the tick, and it takes refuge in the long wool of the lamb. Wait a fortnight after shearing, to allow all to make this transfer of residence. Then boil refuse tobacco leaves until the decoction is strong enough to kill ticks beyond peradventure. This may be readily tested by experiment. Five or six pounds of cheap plug tobacco, or an equivalent in stems, &c., may be made to answer for 100 lambs.

Maggots.—Rams with horns growing closely to their heads, are very liable to have maggots generated under them, particularly if the skin on the surrounding parts gets broken in fighting; and these, if not removed, soon destroy the sheep. Both remedy and preventive is boiled tar, or the marking substance heretofore described. Put it under the horns, at the time of marking, and no trouble will ever arise from this cause. Sometimes, when a sheep scours in warm weather, and clotted dung adheres about the anus, maggots are generated under it, and the sheep perishes miserably. Preventive—Remove the dung. Remedy—Remove the dung and maggots—the latter by touching them with a little turpentine, and then apply sulphur and grease to the excoriated surface.

Maggot flies, says Blacklock, sometimes deposit their eggs on the backs of the long, open-wooled English sheep, and the maggots, during the few days before they assume the pupa state, so tease and irritate the animal, that fever and death are the consequence. Tar and turpentine, or butter and sulphur, smeared over the parts, are given as the preventives. The Merino and Saxon are exempt from these attacks.

Shortening the Horns.—A convolution of the horn of a ram sometimes so press in upon the side of the head or neck, that it is necessary to shave or rasp it away on the under side, to prevent ultimately fatal effects. The points of the horns of the ram and ewe both, not unfrequently turn in so that they will grow into the flesh, but sometimes into the eye, unless shortened. The toe nippers will often suffice on the thin extremity of a horn, but if not, a fine saw must be used. The marking time is the best one to attend to this.

Division of Flocks.—It is customary at or soon after shearing, to make those divisions in large flocks, which utility demands. It is better to have not to exceed two hundred sheep run together in the pastures, though the number might, perhaps, be safely increased to three hundred, if the range is extensive. Wethers and dry ewes to be turned off, should be kept separate from the nursing ewes, and if the flock is sufficiently numerous to require a third division, it is customary to put the yearling and two-year-old ewes and wethers, and the old, feeble sheep together. It is better in all cases to separate the rams from all the other sheep, at the time of shearing, and to enclose them in a particularly well-fenced field. If put even with wethers, they are more quarrelsome, and when cool nights arrive, will worry themselves and waste their flesh in constant efforts to ride the wethers. The Me-

rino ram is a quiet animal compared with the common-wooled one; but poor fences, or fences half the time down, will tempt him to jump, and if once taught this trick, he becomes very troublesome as the rutting period approaches, unless hopping, yoking, clogging, or "poking" is resorted to—any of which causes the animal to waste his flesh and strength, and are the cause of frequent accident.

Weaning Lambs.—Lambs should be weaned at four months old. It is better for them, and much better for their dams. The lambs, when taken away, should be put for several days in a field distant from the ewes, that they may not hear each other's bleatings. The lambs, when in hearing of their dams, continue restless much longer, and they make constant, and frequently successful efforts, to crawl through the fences which separate them. One or two tame old ewes are turned into the field with them to teach them to come at the call, find salt when thrown to them, and eat grain, &c., out of troughs when winter approaches.

The lambs, when weaned, should be put on the freshest and tenderest feed. I have usually reserved for mine the grass and clover, sown the preceding spring, on the grain fields which were seeded down.

The dams, on the contrary, should be put for a fortnight on short, dry feed, to stop the flow of milk. They should be looked to, once or twice, and should the bags of any be found much distended, the milk should be drawn, and the bag washed for a little time in cold water. But on short feed, they rarely give much trouble in this particular. When properly dried off, they should be put on good feed to recruit, and get in condition for winter.—*Randall's Sheep Husbandry South.*

IN-AND-IN BREEDING.

EVER since we witnessed the good results of judicious in-and-in breeding among domestic animals, in Great Britain, we have been advocates of the system to a certain extent, and could wish to see it more extensively practised than it now is in our own country. Yet, we are free to say, that, owing to the little knowledge of this science, at present existing among American farmers, for them to attempt the in-and-in system, would be attended with no small hazard. The theory of correct breeding ought to be made a part of their common-school education; and, in their practice, they should be guided by those who are most successful in rearing improved animals.

It is astonishing how supine farmers are, in regard to this important subject; and if they have thought or acted on it at all, it has generally been in so crude and ignorant a manner, and so much by fits and starts, that little general good has been the result. They ought to start with a correct and definite notion of what is to be attained, and then follow that up, year after year, with unabating perseverance, till the object in view is fully accomplished. This, then, should be left to their heirs, the same as any other property or knowledge to be preserved and perpetuated, or if the advancement of science admits of it, in after years, to be still further improved.

Breeding fine stock has been, and still is, a

source of great wealth to Great Britain; America might profit equally by it, if disposed to do so. In some of the English flocks and herds, close in-and-in breeding has been practised with the most beneficial consequences for nearly a century. We scarcely know an instance of this for ten successive years among those of our own country.

IMPORTATION OF SHORTHORN CATTLE.

On my return from England last winter, I brought with me, for account of Col. Sherwood, of Auburn, N. Y., and myself, a shorthorn bull and three shorthorn heifers; and one bull calf for J. F. Sheafe, Esq., Duchess county, N. Y. Col. Sherwood and myself have had so many inquiries as to these cattle, that I ask a notice of them in the *Agriculturist*.

The bull is 3d Duke of Cambridge; his portrait and pedigree may be seen in the 4th vol. of the *English Herd Book*, page 614, No. 5941. He was bred by that distinguished breeder, Thomas Bates, Esq., Kirkleavington farm, England, who is widely and well known both in England and America. The heifers and bull calf were bred by John Stephenson, Esq., of the county of Durham, England, well known as the possessor of the superior and famous Princess tribe of shorthorns.

In the execution of the commissions of Mr. Sheafe and Col. Sherwood, I was left to my own discretion; they trusting to my judgment. I made a thorough examination of the various herds of shorthorns in England, and from among them selected such animals as I thought would meet the views of my associates, and, at the same time, satisfy the critical scrutiny of American breeders.

These cattle have now been in America five months, and have been seen by hundreds of persons, including many of our best judges and breeders. It gives me great pleasure to say, that they have met the approbation of all who have seen them. The universal testimony is, that, in every respect, they are the best shorthorns ever imported into America.

The vessel on which they were brought over encountered weather of great severity, and the voyage was both long and tempestuous; indeed, for twenty days, there was a continued hurricane. The cattle were reduced and worn out; they are now all recovered, except one heifer, and she was ill, and was knocked all to pieces by the vessel, and has not yet regained her form; I fear she may not; she was the best of the three heifers, before sailing.

The origin of these animals is this: The late Sir Henry Vane Tempest, of Wynyard Park, county of Durham, England, possessed a herd of shorthorns, well known for its wonderful and unsurpassed excellence, and called the "Wynyard herd" or "Princess tribe." In 1800, Sir Henry bought the original of his herd, the cow Princess, of Robert Colling. After his death, the Wynyard herd was sold, and the cow Agelina, (a granddaughter of Princess,) became the property of Mr. Stephenson, of Wolviston, Durham. From Angelina, the cattle which I have brought over are descended. I give the pedigree of one of the heifers in full, to show how rich is their breeding.

Princess 3d, by Napier, (No. 6238, in the English Herd Book,) dam, Rose Ann, by Bellerophon (No. 3119,) ; grandam, Rosette, by Belvedere (1706) ; great grandam, Red Rose, by Waterloo (2816) ; great great grandam, Moss Rose, by Baron (58) ; g. g. g. grandam, Angelina, by Phenomenon (491) ; g. g. g. g. grandam, Anna Boleyn, by Favorite (252) ; g. g. g. g. g. grandam, Princess, by Favorite (252) ; g. g. g. g. g. g. grandam, Brighteyes, by Favorite (252) ; g. g. g. g. g. g. grandam, Brighteyes, by Hubback (319) ; g. g. g. g. g. g. g. grandam, Brighteyes, by Snowdon's bull (612) ; g. g. g. g. g. g. g. g. grandam, by Masterman's bull (422) ; g. g. g. g. g. g. g. g. grandam, by Harrison's bull (669) ; g. g. g. g. g. g. g. g. g. grandam, Tripes, by the Studley bull (627).

Angelina was bred by Sir H. V. Tempest, and sold to Mr. Stephenson ; Princess, bred by Robert Colling, and sold to Sir Henry ; Brighteyes, by Hubback, bred by Alexander Hall, and sold to R. Colling ; Tripes, bred by C. Pickering, and sold to Mr. Hall. This pedigree goes back more than one hundred years. The descent of the Princess tribe of shorthorns, traces farther back than any recorded in the Herd Book, and the blood throughout is of the highest character.

In the above pedigree, the bulls Napier, Bellerophon, Belvedere, and Waterloo were all bred by Mr. Stephenson, and are all descended from Angelina. Baron was of Robert Colling's blood, and was of the same tribe as Angelina.

The bull 3d Duke of Cambridge, was got by Duke of Northumberland (1940) ; dam Waterloo, 2d, by Belvedere (1706) ; grandam Waterloo, 1st, by Waterloo (2816) ; great grandam, Lady Antrim, by Waterloo (2816) ; Anna, by Lawnsleeves (365) ; Angelina, by Phenomenon (491).

Duke of Northumberland, (1940,) bred by Mr. Bates, was got by Belvedere (1706) ; dam, Duchess, 34th, by Belvedere (1706) ; grandam, Duchess, 29th, by second Hubback, (1423,) &c.

Mr. Bates bought Belvedere, (1706,) of his breeder, Mr. Stephenson.

The other two heifers, imported by me, are bred as follows:—Princess, 2d, got by General Sale (8099) ; dam, Duchess, by 4th Duke of Northumberland (3649) ; grandam, Rosette, by Belvedere, (1706,) &c., as in the pedigree of Princess 3d. Fourth Duke of Northumberland was brother of Duke of Northumberland (1940). General Sale, bred by Mr. Stephenson, by Napier, out of Rose Ann, and is full brother of Princess 3d.

Red Rose 3d, by General Sale (8099) ; dam, Maid of Orleans, by Mameluke (2258) ; grandam, Helena, by Waterloo (2816) ; great grandam, Moss Rose, by Baron, (58,) &c., as in the pedigree of Princess 3d.

There are portraits of Napier and Princess 2d, at the rooms of the New-York State Agricultural Society, at Albany. Such portraits of such animals are nowhere else to be seen in this country. I invite an inspection of them.

I have great pleasure in knowing, that I have brought to this country so superior a bull from the herd of that eminent breeder, Mr. Bates. He is the only bull in America got by Mr. Bates' crack prize bull, Duke of Northumberland, (1940,) the

best bull Mr. Bates ever bred. Mr. Bates has but one more, got by the same bull, now left ; and Duke of Northumberland is dead. Mr. Bates repeatedly told me, that 3d Duke of Cambridge was more like his sire than any bull ever got by him. Breeders, desiring the blood of Mr. Bates, can nowhere else, in this country, procure it with such high characteristics of style, quality, symmetry, and substance.

From the various expressions of approval received, I select the following. The writer, Lewis F. Allen, is well known as an extensive breeder of shorthorns ; and as a judge, no person in the United States has had a more intimate knowledge of this breed of cattle in our country for the last twenty-five years. He is the author of the American Herd Book. The letter was addressed to Col. Sherwood, after his return home from Auburn.

"Since looking at your bull, 3d Duke of Cambridge, I have thought much about him ; and in comparing this animal in my mind with all the bulls I have ever seen, I am more and more impressed with his superior value to anything yet brought into the United States. In short, he fills my mind entirely with nearly all the qualities which a perfect shorthorn should possess ; and I do not know but the heifers are quite his equals in style, quality, &c. I trust you will have all the success both in their increase and in the sale of their produce, which you deserve ; for our country has never before, within my knowledge, received such an acquisition in the stock line, as in these cattle. You deserve much for your enterprise ; and Mr. Stevens a great deal for his judgment and good taste in selecting such animals. They far exceed my anticipations, although I am free to say, I anticipated much from Mr. Stevens' selections, with all England for a field to choose in."

This opinion was wholly unsolicited on the part of Col. Sherwood or myself, and wholly voluntary on the part of Mr. Allen.

Steps have been taken to have a portrait of 3d Duke of Cambridge engraved for publication in the *Agriculturist* for September or October ; and of Princess 2d, in some future number.

These animals are now at Col. Sherwood's, Auburn, New York, where they may be seen. It is now designed to show them at Syracuse, at the great cattle show of the State of New York, in September next. Col. Sherwood and myself invite the attention of breeders and amateurs to them.

A. STEVENS.

New York, July 9th, 1849.

HOW TO CATCH SHEEP.—In catching sheep, never seize them by the wool on the back, as it hurts them exceedingly, and, in some cases, has been known to kill them, particularly in hot weather, where they were large and fat. Indeed, the best way is, to avoid the wool altogether, and to accustom yourself to take them by the hind leg, or what is still better, by the neck, placing one hand under the jaws, and the other at the back of the ears. By lifting up the head, in this manner, a child may hold almost any sheep, without danger to the animal, or himself.

REVIEW OF THE MAY NUMBER OF THE AGRICULTURIST.

Effects of Castration on Animals.—I wish the views of this writer could be impressed upon the minds of all that class of the community who seem to think, or rather act, as though they were religiously opposed to castration in all cases. It is surprising, and almost past belief, that there are such a number of miserable runts of uncut calves, lambs, and pigs, I saw, last week, in a little journey of a hundred miles, that I took among some of about as good farmers as the country affords. In most cases, it is, of course, carelessness; but it is too often the case, that the owner of a calf is no judge of the points that indicate a good breeder, and he is saved from the castrating or butcher's knife, because "he was out of a mighty good cow;" or because the owner "guesses he aint a goin' to pay Deacon Spriggins four-and-sixpence for the use of his darn'd old ram agin." Well, the calf is saved, grows up to bullhoo, proves good for nothing, is castrated, and then is a clumsy, lazy, old stag, unsaleable as an ox, unfit for beef, unruly through life, and rejoiced over by the boys when he at length becomes food for the crows; and all because he was not castrated while young. When will men learn that all of our domestic animals are "like clay in the hands of the potter," and that ultimately they may be almost moulded at will! The spaying of heifers ought to be practised, not only for milkers, after their first calf; but when they are not good milkers, spay them and put them to the yoke. As for pigs, let all those who prefer old-sow pork, remain welded to their idols, and let nature have her course.

Rearing Calves—Reply to Reviewer.—Does Mr. Sotham mean to be understood, that he would rather have a "runt of a calf" to rear, to make a fine animal, than a good one? For thus his language conveys the idea; and, as I think, a very erroneous one. The world knows that we are already too apt to send all the best calves and lambs to the butcher now, and save the runts for breeders; and if backed by such a man as Mr. Sotham, we shall soon believe that this is the right course. I know he does not so mean; and therefore beg him to put his language in a shape to be differently understood. I am as much opposed to the stuffing of calves for show, as he is; and I wish that judges, at our fairs, would not only refuse to give premiums to such, but would express their disapprobation of the course. I am glad to hear Mr. S. declare, distinctly, that "he is not a shorthorn man." But where are the proofs?

Experiments with Potatoes.—From these, and my own experience, I would say, rot or no rot, plant whole tubers of a medium size.

Adulteration of Food, No. 11.—My only regret is, that the adulteration of these drinks is not carried to a much greater extent than it is. For then, fools would drink and die at once, instead of dragging out a poisoned life of misery to themselves and every one around them; and then, perhaps, the world would begin to see the wicked abominations of these wicked adulterators.

The Dog Distemper—A Better Remedy—A Sure Cure.—Take two grains of strychnine, and give it in a little milk or any food the dog will eat.

N.B.—It don't operate well upon good shepherd dogs, nor fine spaniels, nor Newfoundland dogs; but for nine tenths of the canine race, it is the best medicine in the world. It is also good for cats, where there are no rats, mice, nor moles to catch.

Domestic Fish Ponds.—And so you are surprised that your country friends don't make fish ponds! I am not surprised to see them year in and year out, living upon hog and hominy, and at night shutting themselves up in a tight room, and burying themselves in feather beds, and getting up in the morning wondering what makes them feel so! They would feel better, if they were to plunge into that same fish pond. But until men learn a little more of improved husbandry, how can you expect them to make such an improvement as an artificial fish pond? For my own part, I know of no reason why fish should not be cultivated for food, as well as hogs. I am sure that people would be more healthy if they would be less *hog-gish* in their eating. In locating a fish pond, care should be taken not to get it too near the house, and make it a great musquito and fever-and-ague manufactory.

Premium Beef.—Very good. How much did it cost a pound, not only to the maker but consumer?

Application of Plaster.—The same result has followed the application of carbonate of lime to land. At first, the product is increased; but for want of any application of manure, and by constantly taking off all crops, the land ceases to produce, because the vegetable matter is eaten up; and then the lime, or marl, is cursed as good for nothing. "Why, I thought that lime was manure!" "Well, if I've got to use other manure, I won't use lime," are common expressions. But how can you expect men to understand that neither phosphate nor carbonate of lime is manure, as they understand the term, who never read a word about agricultural chemistry, nor anything of the science of cultivation. How easy it is to see that a man may be a good sailor, so long as he keeps within sight of shore; but unable to navigate beyond the sight of land. Just so with those who cultivate the earth. Thousands who live by it, and think they cannot be taught anything new, never knew nor thought a word about the natural constituents of plants. How can you expect such men to apply plaster, in the first place, and much more, ashes in the second, who do not even apply such a rotation of crops as would tend to keep up the fertility of the soil?

Southern Planting, &c.—I am glad to see such an article as this from such a man as Col. Hampton. Independent of his being one of the best farmers in South Carolina, as I am told he is, his name and position in society give his opinions a weight that produces an influence that cannot but be felt by those of less note. What a pity it is that many other gentlemen of his standing, would not write more. I hope we shall continue to be favored with his communications, now he has broken the ice. I wish he had told us how much land he put that large amount of manure upon, as to us, forty-acre Yankee farmers, it is a big heap.

Race Horses vs. the Poor of Great Britain.—I wish you had not published this article. It

makes me feel as though all of that corn that Jonathan and I raised by the sweat of our brows, and sent over to feed the famishing Irish, had indirectly gone to feed horses and horned beasts kept to consume the food that should go into human stomachs, and by which we have helped to breed and propagate gambling, and all its attendant hunting and horse-racing accompaniments. There is something rotten in England as well as Denmark. As putrescent manures produce good crops, I hope something good will soon grow out of this rottenness.

Red-Cedar Posts.—Glad to hear that this timber is so plenty within reach of New York; for we are going to use a great quantity of cedar posts, when we all begin to make wire fence. And unless we are to have that good time when all fences shall be no more, the sooner we get to making them of iron the better. There is one item of advantage in wire fence, that I have never seen noticed; that is, it never will blow down; and this, in our windy country, is a very important consideration.

Mosses on Meadows.—"Moses on meadows!", said a neighbor of mine, who borrowed my paper (he never subscribes for one of them book-farming papers.) "I should like to know what *Moses* knew about meadows. Though he might have some knowledge of bulrushes, I fancy he knew but little about such grass as we grow now-a-days." And with that he turned over the leaf as unworthy of his notice. I fear this is too often the case with readers. If they even cut the leaves of the paper, they look it over with about as much attention as my neighbor did "*Mosses on Meadows*," and, doubtless, as will many others do to this very article.

Hints on Horses, No. 1.—First rate. No fault to find. Go on. Perhaps I may catch you tripping in the next number. And then the lash is ready.

Guano vs. Poudrette.—Multum in parvo. It ought to be printed in large letters, and posted upon the corner of every street. How to destroy, not save, all fertilizing matters, appears to be the sole study of all the city fathers. But all trades must live; and if we should save and apply all of these home-made manures, how could the guano trade live? There are a great many other round-about-ways of doing things in this world, besides sending the materials of which guano is made down into the deep waters, to be returned to us after many days.

New Mode of Preparing Bones for Manure.—This, of all others, appears to me to be the cheapest and best mode yet thought of. I know a friend of mine, who has erected a bone mill, at considerably greater expense than the steamer would have been, particularly as the bone mill is driven by steam, which could just as well have been applied to the bones, as to drive the mill that grinds them. A wooden vessel would answer, I suppose, as such are used to steam fat out of hogs, sheep, &c., that are tried up for their grease.

Very Important to Farmers, is the title of an article from Mr. Wilkinson, which certainly shows his experiments in a very favorable light. But here should have been one more; that is, to test

the quality of the increased quantity of milk. Now, for all purposes, except to sell by the quart, a pint of milk may be worth as much as a quart. It is also worth the inquiry, whether the cows will continue as healthy upon this warm food and close confinement, as otherwise. My opinion is, that they will not. Feeding hogs with warm swill may do better, as they are so much like folks. But there is decidedly too much warm food taken into human stomachs, for the good of all the dependant members.

Supposed Injury from Plowing under Green Corn Stalks.—I deny the position, in toto, assumed by this writer, that green corn stalks, or any other vegetable containing sugar, are not suitable crops to turn under for manure. I grant that alcohol and vinegar are not good fertilizers; but supposing this man had applied 40 bushels of lime per acre to his land, how much vinegar would his corn stalks have made? He would then have had a "rich mass" of really fertilizing manure. I have heard of just such things before.

Profits of Farming.—It would have been much more satisfactory to your readers, if Mr. Wilkinson had given the prices per bushel for which he actually sold his produce, because it strikes me that he has got the prices full high. For instance, wheat is within a fraction of \$2.10 a bushel, which is certainly so far above the market, that it throws a shade of suspicion upon the correctness of the whole table, unaccompanied by any explanation. Corn is rated a little over 60 cents; rye, a fraction less than 90 cents; oats, 32 cents; and potatoes, 75 cents, &c., &c. Now, are these actual, fair market prices? If they are such, at Philadelphia, they are not general, and a proper deduction must be made for other localities. The same amount of fertility may be obtained in many places, at about the same expense probably; but, instead of this article being called "*Profits of Farming*," it should have been headed, "*Profits of a Small, Well-cultivated, Rich Farm*."

Analysis of Soils, &c.—These tables of analyses are just what I like to see. I hope they will be continued until we can get a general knowledge of the character of the soil in all parts of the country. As they seem to be put forth with a sort of "by authority" endorsement, I hope they may be depended upon as correct.

Successful Growth of Cranberries on Upland.—Although "one swallow don't make it summer," I hope this one experiment will make a great many fields of this valuable fruit. If the same success continues, I don't see why every one, who has a garden, may not have a plat of cranberries as well as strawberries, unless they are prevented by that blighting influence of procrastination, which, after all, is the greatest preventive of all others. I have no doubt that swamp muck, spread over the land, will be found to be the best manure for this crop. That it is a profitable one, I think has been sufficiently demonstrated by several Massachusetts farmers, and that should induce others to "go and do likewise."

Driving Hogs East.—Not only hogs are driven from the fertile lands of the great west, to fill the mouths of the great manufacturing Yankee nation, but cattle and sheep come from the same inexhaust-

tible source. Large drives of young cattle are driven from the grand prairie of Illinois every year into the state of Ohio, and are there used as oxen or kept for milk, as long as profitable, and then move forward to the vicinity of Philadelphia, New York, and Boston; and after taking on a coat of fat, they make a final move to the butcher's stall, or, perchance, some of them go down in the great ships that go over the Atlantic, and thus western-prairie beef is eaten in England. Truly the shrewd Yankee is always about, where there are a few cents to be made, because the schoolmaster that was about when he was a boy, taught him that 100 of these same cents are equal to an old Spanish-milled dollar, which, at any and all times, is fully equal to an old, greasy, ragged dollar bill of some unknown bank away down in Passammygunk.

Recipes for the Ladies.—I am glad to see that Mr. Robinson is still mindful of his best friends; for such, I believe, he has always esteemed the fair portion of our good world. I have eaten a most delicious bread in the south, made of hommony, and, perhaps, a little flour and eggs. Can you give us the recipe for that, old friend? As to that chicken-fixin dish, I suppose it is French. Good, no doubt; but are you sure there are no frogs in it?

What Can Be Done by a Farmer's Wife.—Why such a one as this, can make her husband both rich and happy.

The Way to Win a Husband.—Girls, did you read that? Read again. I think I could be won by such a course; for I love mutton chops, and I should delight to have her come and whisper softly in my ear, "I did it." Ah! what should I not do while her lips were so near? REVIEWER.

APPLES, AS AN ARTICLE OF HUMAN FOOD.

THE importance of apples, as food, has not hitherto been sufficiently estimated in this country nor understood. Besides contributing a large proportion of sugar, mucilage, and other nutritive matter, in the form of food, they contain such a fine combination of vegetable acids, extractive substances, and aromatic principles, with the nutritive matter, as to act powerfully in the capacity of refrigerants, tonics, and antiseptics; and when freely used at the season of ripeness, by rural laborers and others, they "prevent debility, strengthen digestion, correct the putrefactive tendencies of nitrogenous food, avert scurvy, and probably maintain and strengthen the powers of productive labor."

The operators of Cornwall, in England, consider ripe apples nearly as nourishing as bread, and more so than potatoes. In the year 1801, a year of scarcity, apples, instead of being converted into cider, were sold to the poor; and the laborers asserted that they could stand their work on baked apples, without meat; whereas, a potato diet required either meat or fish.

The French and Germans use apples extensively; indeed, it is rare that they sit down, in the rural districts, without them in some shape or other, even at the best tables. The laborers and mechanics depend on them, to a very great extent, as an article of food, and frequently dine on sliced apples and bread. Stewed with rice, red cabbage, carrots, or by themselves, with a little sugar and milk, they make both a pleasant and nutritious dish.

HUDSON-RIVER FARMING.

WE have recently been highly gratified in witnessing the successful application of labor-saving machinery to farming operations; and in no one preceding instance, have we seen more triumphant results.

Judge Van Bergen, of Coxsackie, has, for the last 43 years, been the owner and occupant of a large farm, lying two miles from the west bank of the Hudson. Till within a year or two, it contained 700 acres and the old paternal mansion. The latter occupies an elevated position, from the observatory of which, four states are visible. The Coxsackie Valley, a wide plain, of open, gently rolling, fertile soil, stretches northwardly for ten miles. For an equal or greater distance, it extends in a south-westerly direction, till it reaches the foot of the Kaatskill Mountain. Covered throughout their whole extent, with a luxuriant growth of grass, grain, and other crops, the expanded fields everywhere are dotted by graceful shade trees, and the surrounding hills and mountains loaded with their richest summer foliage, the view combines all the beauties of a western prairie and an English park, with the magnificence of Alpine scenery. Judge Van B. has recently sold about 100 acres of this land, including the mansion and principal farm buildings, to a young gentleman from Maryland, who has had the taste to appreciate, and the good sense to cultivate, these luxuriant acres, in preference to continuing the more alluring, but too often delusive pursuits of a mercantile career. Of the 600 acres, 250 are in wood, 250 in meadow, and 100 in grain and roots.

The plowing, subsoiling, harrowing, rolling, planting, and cultivating are accomplished by two men only, with the aid of their teams and implements; and such is the confidence of Judge Van B., in the success of his operations, that he asserts the entire practicability of cultivating 70 acres of corn, in the best possible manner, with but these two laborers.

The plowing is done either in the fall or early spring, the former being preferred for the clay, which is the predominating soil. A furrow is thrown upon the unplowed ground at some distance from the edge of the field, with the most approved two-horse plow. The team then turns to the left, and returns, throwing another furrow parallel with the first and in the same manner. The plow is then brought back to the right of the first furrow, and enters upon the unbroken ground, that is but partially covered with the loose earth first thrown up, leaving about the width of one furrow unbroken by the plow and covered by the preceding furrow. This operation throws the whole field into high beds, of the width of a furrow, in which condition it is best fitted for the access of air, heat, and moisture, and with but half the labor of ordinary plowing.

The subsoil plow then follows in the bottom of every furrow, as deep as it can be driven with one, and sometimes two, good pairs of oxen or horses. After this operation, the ground is allowed to remain exposed to the meliorating effects of the atmosphere, till the proper time for fitting it for the reception of the seed.

The preparation for planting is usually made

with a machine, in the form of a stone boat, consisting of compact oak plank, about two inches thick, eight feet long, and three to four feet wide, according to the team used, or the work required to be done. This has a large number of miniature, wrought, scy-meter-shaped cutters, with a sharp, convex edge, from six to twelve inches in length, set into the plank by shanks and keyed. These are slipped in or out at pleasure, and may be longer or shorter, near or far apart, according to the condition of the land, or the operation required. This cuts the land into thin slices, while another horizontal cutter, reaching the whole width of the plank, and to which it is fastened by shanks, and at any required depth, but generally five or six inches, divides and slightly raises the whole surface, the heavy plank, in every instance, forming by its weight, an efficient clod crusher for any lumps upon the surface. This operation tends to fill up the furrows and pulverize the earth, with the slightest expenditure of team power. Another implement is frequently applied to effect this object, which is simply a large triangular frame with a neap or tongue, with apertures, in which cultivator teeth are placed at any required distance. These implements having passed at right angles, a sufficient number of times over the field, it is ready for seeding.

For planting corn, the implement well known as the *cornplanter* is used, which, with a man and horse, plants 8 or 10 acres per day, furrowing, dropping, covering, and rolling the seed at a single operation, and much more perfectly, than can be done by hand. Carrots, beets, and parsneps are sown with a seed drill, that acts with equal precision and despatch; while a double-moldboard plow throws open the ground for potatoes, and a furrow on either side buries them.

The small grains are sown broadcast, and covered either by the gang plow, the cultivator, or the crescent-tooth harrow, (before described,) as may be most desirable.

The cultivation of corn and potatoes commences immediately after their appearance above ground, and before the weeds have acquired strength or vigor. The crescent harrow or cultivator is passed at right angles between the rows and close upon the hills. The former is often run directly over and through the corn. The blades, or teeth, are so thin and the corn has so strong a footing, that scarcely any injury is done, by tearing or uprooting it, while there is great benefit derived from the thorough pulverization received directly among the roots.

The great secret of easy and successful cultivation, is, to commence early and do it thoroughly. The weeds are then easily subdued, and the same disturbance of the soil that kills them, most effectually aids the growth of the crop. Should the weeds at any time get the upper hand, by reversing the ends of the crescent harrow, we have a thick series of hooks which will tear out the weeds with their roots, more perfectly than can be done in any other way.

Small iron moldboards for throwing either right or left are employed for removing the earth. One of these is used as the last tooth in either leg or wing of the cultivator, for the purpose of drawing

the mold, or top soil, away from the rows, and to admit the sun and promote early growth. In the next, and any succeeding operation, these plow-teeth are reversed, so as continually to throw the earth to the plants. With the adaptation to every purpose, which, by a slight change these different implements possess, the cultivation of the crops is made complete, without the aid of the hoe or any hand implement. *Judge Van B. has raised 97 bushels of shelled corn per acre on three and a half acres of ground, with the use of no other implements than those moved by the team.*

A large portion of the farm is devoted to meadow, hay being one of the most profitable crops for export, and the character of the soil being peculiarly adapted to it. One field, containing over 200 acres, has 180 in meadow, and most of the remainder will be added to it another season. No portion of a field, once laid down to grass, is ever subjected to the plow, unless the presence of weeds, or diminution of the valuable grasses, renders it necessary. Most of the meadows have been laid down for 8 or 10 years, and one has not been disturbed for half a century, at least, and has throughout that entire period produced good crops.

The principal grass is Timothy, though clover, herd's grass, and some other indigenous grasses are occasionally sown or come in. The former is kept in the sod, by allowing the grass partially to ripen before cutting, once in three or four years, and then omitting to rake the hay clean from the ground. This is sufficient to re-seed it effectually.

The hay is made on this farm on truly rational principles. No grass is cut when there is either rain or dew upon it; and each mower is required to lay his grass in clean, regular swaths, which, with a little attention, is as easily done, as to scatter it heads and points over the whole field. After wilting at the top, a four-pronged, light, wooden fork is used for shifting the hay to a new spot, which has become heated by the sun; and if very heavy, the swath is turned over. At every operation of moving, a forkful is lifted to some other pile, carefully preserving in every movement, the horizontal position of the grass. If a rain is anticipated, a few of these piles are laid upon each other, and no trimming is then necessary to preserve the hay from injury from a week's rain, as the grass in this position sheds the water perfectly. When cured in these small heaps, the cart passes between them, when they are pitched upon the load, after which, the horse rake passes over the meadow and gleans every particle of hay.

A great improvement, it will be seen, is thus secured, by doing away with hand raking, and the horse rake is only used for gathering the scattering locks, the greater portion being first removed by the fork, without raking. This mode of curing avoids the scorching effects of a hot sun, the leaves and flowers of the grass are not burnt to a crisp, and then pitched and doubled together in a such a manner as to break off the finer and most valuable part of the hay. The juices of the hay are not so much dissipated as by the ordinary exposure, and the hay is consequently sweeter and more nutritious. Judge Van B. says he has never known *mow burn*, or injury of any kind from putting hay into the stack or barn, however green it may have been,

provided it contains no other moisture than its own juices.

There is one feature of Judge Van Bergen's operations which is peculiar. He has had a considerable part of his farm under constant cropping for 43 years, principally in grass, but sometimes undergoing a rotation in grain, &c., during all of which time, it has borne good crops, *without receiving manures of any description excepting plaster*. This shows great original strength of soil, and it shows also admirable preparation and management. The ground is thoroughly prepared before sowing and it is well seeded. Cattle are never allowed to be on it in spring nor when the sod is soft; it is kept free from weeds and mosses, and one crop only is taken off in a season, the aftergrowth remaining upon the ground to afford nourishment to succeeding crops.

Deep, thorough tillage, on an originally good soil, comes as near a substitute for manure, as it is possible to attain, as was clearly shown by Jethro Tull, 150 years ago, and as again exhibited on the farm we have hastily noticed above. Whatever there is in the soil fitted for the food of plants, is by this careful tillage, better prepared for assimilation by them, than when it is suffered to remain compact, and this condition of it allows the free and beneficial circulation of moisture and the gasses, which make up from 94 to 97 per cent. of the aggregate weight of the crops. Yet, whoever infers from this example, that manures are unnecessary, should look at the grass in some adjoining fields belonging to Judge Van B. One of these, containing a small patch of one and a third acres, but which had been liberally manured when laid down to grass, yielded five tons and 1,960 pounds, by actual weight, at one cutting. Strong, wire-spring-tooth horseshoes are used in the spring for loosening or scarifying the sod and raking off the old fog.

There is a comparatively small amount of stock kept on this farm at present, and the greater part of the hay is pressed and sent to the New-York market. The expense of cutting the meadows, producing one and a half tons per acre, is 87½ cts.; and the whole cost of curing, gathering, storing, packing, and sending to market, about \$5.50 per ton. The average product is from one to one and a half tons per acre, and the price in market varies from 40 to 75 cents per 100 lbs. The profits from this farm may therefore readily be estimated.

Judge Van B. subsequently drove us to the beautiful farm of his son-in-law, Mr. Reed, three miles below Cocksackie, on the summit of that commanding range of hills, that, throughout almost its entire course, bounds the Hudson. We here found extensive fields and meadows, unsurpassed in cleanliness of cultivation; large and productive orchards; fine gardens and groves, and hills and knolls redeemed from barrenness and desolation, and by the proper application of muck or peat that exists in unlimited deposits at their base, brought at once to the highest state of productiveness. Lime is also used with success, in connection with the above. We have never seen a farm under better nor more thorough and systematic cultivation.

Reader, you have here detailed, a system of farming, which has made those wealthy, who have had the good sense to adopt it. Go thou, and do likewise.

CIDER MAKING.

Qualities of Apples.—The best apples for cider are those which yield a juice of the greatest weight, or specific gravity; and it is believed to be true, that cider made from trees, grown on a strong, clayey soil, has more strength, and will keep better, than that made from trees on a sandy soil. The red and yellow color of the rind is considered as good indications of cider fruit, and apples of the various degrees of these colors are decidedly preferable to those of which the rinds are green. The pulp should be yellow, the taste rich and somewhat astringent.

Apples of a small size, if otherwise equal in quality, are always to be preferred for cider to those of a larger size, in order that the rind and kernels may bear the greatest proportion to the pulp. Large, fair apples afford the weakest and the most watery juice. Again, the dryer kinds of apples, or those grown in a dry season, will yield less juice, but the cider made from them will be proportionably rich. Unripe apples, should also be avoided, as they do not contain sufficient sugar to undergo the vinous fermentation, while they contribute to render the liquor acidulous and rough. Sour and harsh-tasted apples are usually preferred by farmers, as it is generally believed that they make the best cider. This arises from the fact, that they contain less sugar and more malic acid; and the presence of the latter impedes the conversion of alcohol into vinegar. But cider made of such apples, can never equal in quality that prepared at a low temperature from fruit abounding in sugar.

The most celebrated cider apples in this country, are the "Harrison," the "Camfield," and the "Newark Sweeting," grown in the vicinity of Newark, New Jersey; the "Virginia Crab," much cultivated in Pennsylvania and Ohio, and the "Granniwinkle." Besides these, there are numerous other varieties cultivated throughout the country of every shade of merit. Among these the cullings of the "Newtown Pippin," the "Baldwin," the "Rhode Island Greening," and the "Roxbury Russet," are, perhaps, the most valuable.

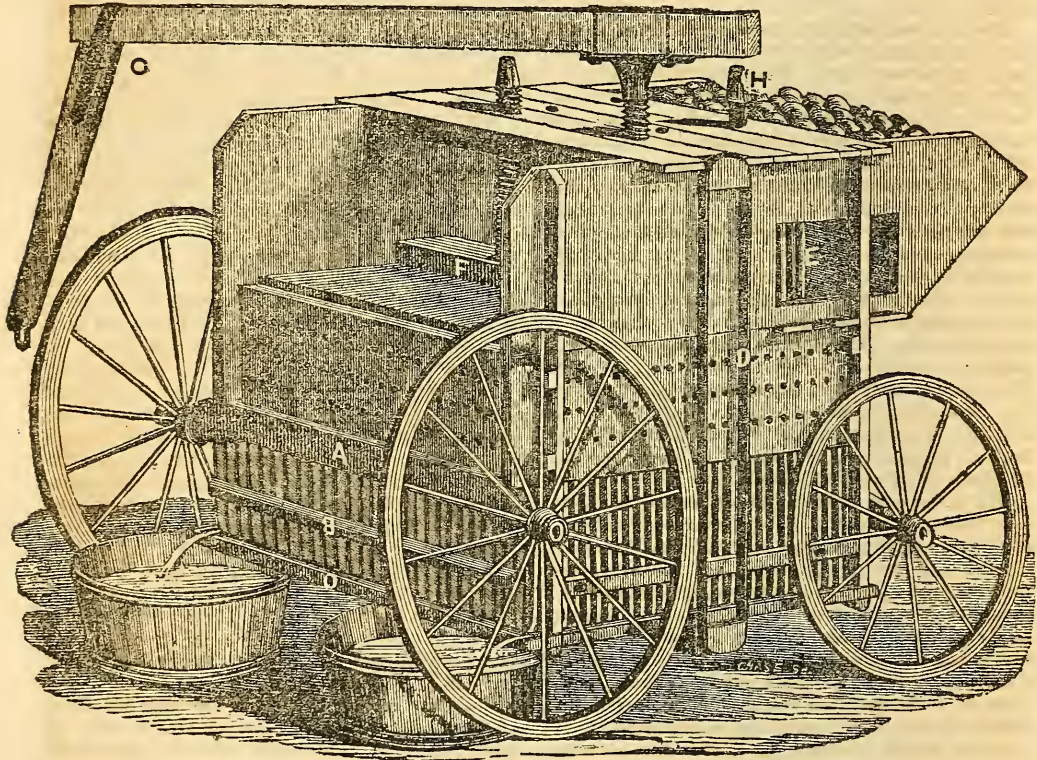
Ripening and Storing the Fruit.—The apples should be suffered to hang on the tree till ripe enough to fall off themselves. When gathered, they should be bruised as little as possible, and laid in heaps on the ground, in the open air, fully exposed to the weather, unless there are frosts at night, in which case, they should be carefully covered with straw or hemlock boughs; or, what would be still better, to store them in heaps in a shed or room, and there carefully be kept from rain and dew. Each sort should be kept separate; or, if this cannot be done, those ripening at the same time should be ground together. The object of this is, that the fruit may be reduced in the mill into a homogeneous mass; and this can only be done by choosing fruit of the same kind, or, at least, of the same degree of mellowness to be put into the mill at the same time. After the apples are ground, the pumice of the several sorts should be mixed, as cider made from several kinds of fruit is always considered the best.

The Cider Mill.—Among modern inventions, we would call the attention of farmers, to the portable cider mill and press, recently patented by Mr. Nathan Chapin, of Syracuse, New York. This ma-

chine is arranged in one compact body, upon a set of heavy wagon wheels; and including these, the whole weighs about 2,700 lbs. It may be drawn from one orchard to another by a single pair of horses, and is put in operation while standing on the wheels. With the power of one horse and the labor of two men and a boy, it is capable of expressing from twelve to twenty barrels of cider per day. The apples are ground by four fluted cylinders, or nuts, which mash into each other, and are within the mill, as at E. These are driven by a horse attached to the sweep C. Below the cylinders, is the press crib, made of perforated plank and grates, and when the falling pomace has formed a sufficient cheese in this, the follower planks and block F, are introduced upon the upper surface. The sweep C, is transferred to the heads

of the screws; and the pressing is performed either by hand or horse power. A channel on the margin of the platform O, conducts the cider, which issues through the sides of the crib, into the tubs. When the pressing is finished, the platform is lowered to the ground, the tubs and rear grate B, are removed, and the cheese is drawn out in a mass upon a separate, side platform, by a horse, to any convenient distance from the mill. The sweep is then placed upon the shaft H, of one of the cylinders, and the grinding is again commenced. A band of iron, on each side, shown at D, confines the press beam to the platform during the pressure of the screws.

Grinding and Pressing.—After the apples have sufficiently ripened, and rendered more saccharine, all those which appear to be what is called "black



CIDER MILL.—FIG. 54.

rotten," should be picked out and thrown away; and the remainder slowly subjected to the process of grinding, allowing a free access of air to the fruit till it is reduced to a homogeneous mass, in which the rinds and kernels are scarcely distinguished from the pulp. This mass, usually called "pomace," may then be suffered to remain from 12 to 24 hours, in the large tub or trough in which it is received, fully exposed to the air. It should then be made into a "cheese," by laying it on the press in alternate layers of straw, when, if the weather be cool, as it always should be, the longer it remains before pressing the better the cider, provided it escapes fermentation. In some cases, the pomace is suffered to remain a week or ten days

after it is ground, before it is submitted to the press, stirring the mass every day. The cheese may then be pressed for 24 hours, and afterwards cut and made over, occasionally adding a little water, until it becomes sour from fermentation, when it should be abandoned and thrown away. The expressed juice, or cider, should pass through a hair sieve, or some similar substance, into a large tub or vat, whence it is put up in hogsheads or barrels, not quite filled, to undergo the process of fermentation, fully exposed to the open air.

Fermentation.—Much of the excellence of cider depends upon the temperature at which the fermentation is conducted; but this is a point almost entirely overlooked by cider makers in general. In-

stead of placing the apple juice in a cool situation, where the temperature does not exceed 50° F., nor sink below 47°, it is frequently exposed to the full heat of autumn, in consequence of which, much of the alcohol, formed by the decomposition of the sugar, is converted into vinegar, by the absorption of atmospheric oxygen, and thus the liquor acquires that peculiar and unwholesome acidity, commonly known by the name of "roughness." On the contrary, if the fermentation be conducted at the above-named temperature, nearly all the sugar contained in the juice is converted into alcohol, and this remains in the liquor instead of undergoing the process of fermentation. It may here be remarked that, if left to itself, the cider would be subjected to three fermentations: 1st, the *vinous*, which is necessary to give it strength; 2d, the *acetous*, which, if suffered to continue, would soon change the alcohol into vinegar, and proceeds most rapidly at a temperature of 95° F., but at lower temperatures, the action becomes slower until at about 47° no such change takes place; 3d, the *putrefactive*, by which it would become insipid and totally unfit for use. It is therefore quite evident that if the saccharine juice of apples, or any other fruit, be made to undergo the "vinous" fermentation, in a cool situation, less of the spirit, resulting from the transformation of the sugar, will be converted into acetic acid, and consequently more will be retained in an unaltered state in the liquor, and tend not only to improve its quality, but by its conservative and chemical action, to precipitate the nitrogenous substances, or excitors of future change.

The cider maker should watch the height of the first fermentation, which is indicated by some of the impurities, contained in the liquor, issuing from the bung hole of the cask, or rising to the top, in the form of spume, or froth. The fermentation, let it be remembered, should be slow in being developed, so that the juice set in October or November may continue to "work" until March, April, or May. Until this time, the cider will be sweet, but then, will become pungent and vinous, and will be ready to be "racked" or drawn off for use. At this period, if the vinous fermentation has not ceased, it may be stopped by adding to each barrel a gallon of sound, old cider, or by exposing the cask to a cooler air.

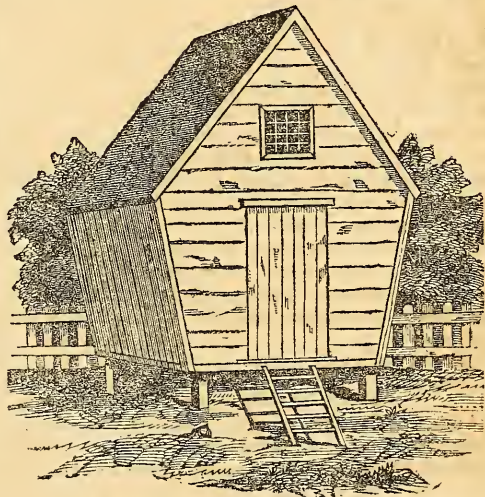
Storing and Subsequent Management.—Cider should be stored in a cool place, of a temperature not varying far from 50° F., and should not be disturbed before it becomes sufficiently mature. Each barrel should want from one to two gallons of being full, in which state it should stand exposed to the open air, with the bung put lightly over the hole, till the end of March, when the liquor should be racked off into clean casks, which should be completely filled, and the bung firmly driven. In performing this operation, the lees should be filtered through linen bags.

The preservative properties of cider depend upon its natural strength. That of the best quality contains about nine or ten per cent. of real alcohol, while the ordinary kinds will yield only from four to six. Common cider will rarely keep more than five or six years, and seldom improves after the second or third year; but when brandy is

added, to the amount of a gallon to each barrel, and it is carefully attended to, it will keep from 20 to 30 years.

Preparatory to bottling cider, which should not be done before it is one or two years old, it should be examined, to see whether it is clear and sparkling. If not, it should again be racked, and carefully kept another year. The night before it is intended to be put in bottles, the bung should be taken out of the cask, and so left until the next day after, as, if this is done at once, many of the bottles will burst by keeping. The best corks and Champagne bottles should be used, and it is common to wire and cover the corks with tinfoil, after the manner of Champagne. A few bottles may be kept in a warm place to ripen; and two or three raisins, or a small piece of lump sugar, may be put into each bottle before corking, if the beverage be wanted for immediate use, or for consumption during the cooler portion of the year; but for warm weather, and for long keeping, this is inadmissible. The bottled stock should be stored in a cool cellar, where the quality will be greatly improved by age.

CONSTRUCTION OF A GRANARY, OR CORN HOUSE.



GRANARY.—FIG. 55.

CONVERSING with an intelligent farmer, a few weeks since, on the subject of agricultural buildings, he remarked, that he considered a granary, or corn house, indispensable on every farm, especially on those where corn or grain is grown to any extent; and, furthermore, he said that he believed, since he built one on his place, he had saved grain enough, yearly, to fatten a hog to a weight of 300 pounds; and judging from the quantities I have seen carried off, and wasted by rats, I am inclined to his opinion. Most farmers have experienced more or less trouble from these mischievous animals, by the loss of grain, eggs, young poultry, by the undermining of walls, and by various other tricks; consequently, I presume any specific to lessen their depredations, or numbers, would meet with favor by that class of our people. The first

great cardinal and starting point with me is this: "Lead them not into temptation." House all your grain in properly-constructed granaries, and you remove the first great cause of temptation. If you have no granary, build one at once, and take my word for it, you will never regret it; and in order to assist those in need, I send you the adjoining sketch, which, I think, combines neatness and convenience:—

Mr. Buckminster, of the Massachusetts Plowman, says, that rats and mice, are the most unprofitable stock that a farmer can winter; and this, I suppose, no one will gainsay. Still, we all know very well, that, if grain is unprotected, the farmer will have to winter a herd of this kind of stock—aye, and summer them too.

Fig. 55, is a sketch of a granary, or corn house, which explains itself. The size can be varied to suit the wants of the owner; only mind and let it be large enough to hold all the grain or corn you can raise. The roof should be steep, tight, and well shingled, with a good projection; the sides covered with strips of board, four inches wide, leaving spaces of half an inch between the ends, boarded tight, with a window at each; and a good batten door, with a lock on it, completes the establishment.

The interior arrangement can also be varied. A very good plan is, to have two or three tiers of shoal bins, on each side, for the various kinds of grain, while our great staple of New England, Indian corn, should occupy the floor. A wide shelf, also, should be put up at the back end, for all grain measures and bags, where they should be kept when not in use, so that they may always be ready when wanted, keeping in view Dr. Franklin's motto, "A place for everything and everything in its proper place." The exterior can be made a little more perfect, by furnishing the sides with sliding shutters, to cover up the spaces between the boards in foul weather; but as the design has a projecting roof, this would hardly be necessary.

J. B. DAVIS.

Boston, July 10th, 1849.

VISIT TO COL. CAPRON'S.

COL. H. CAPRON, of this place, is one of the most intelligent, and his works show him to be one of the most enterprising improvers that I have ever met with. He has now growing, one of the best fields of wheat I ever saw; and this upon land that would not produce five bushels to the acre, a few years ago. Some of his cattle are equal to any northern herd. He has, also, some most superb horses, and most decidedly the best mule teams that I ever saw in harness. He keeps 80 cows, the milk of which being made from his most excessively luxuriant clover fields, commands the highest price, (13 cents per gallon,) in the Baltimore market. His barn and stables, as well as all the arrangements about the dairy, and as every other of his farming operations, are a little superior to anything else in the south, and, in my opinion, equal to anything in any country.

Nearly all of his land that required it, Col. C. has under-drained, making use of hard bricks to form the drains. The benefit of draining some pieces of land that did not, to one unacquainted with the effect, seem to require such an improve-

ment, have been wonderful. Indeed, all his operations have been so. For he has not only, by his own energy, built up a large manufacturing village, but has shown to all the people around him, that these old, barren, tobacco fields, can be made productive; and, at the same time, be made to pay all cost and produce a profit.

SOLON ROBINSON.

Laurel Factory, Md., June 7th, 1849.

GLORY VS. GOOD HUSBANDRY.

WE frequently see the announcement in one or other of the states, and not unfrequently among our larger cities, of the presentation of a sword to some military hero in our late war with Mexico, the cost and workmanship of which are elaborately paraded before the public; but we have not yet seen the first notice of gift, diploma, or even commendation, to any one who has distinguished himself or benefitted his country by the improvement of the soil, or increasing the agricultural products of the United States.

The man who leaves the world, with 10,000 less persons in it, bereft of life through his agency, is worthy of all honor and public gratitude; but he who has shown how 10,000 persons could live in comfort and happiness, where scarce 1,000 could have subsisted in penury, is unworthy any notice or reward. Such at least is the *practical* judgment of bodies legislative, and cities corporate.

The soldier who does his duty in a just war, is worthy of his pay, rations, and a respectable station in society. But is he entitled to aught beyond his equally meritorious, and perhaps even more laborious countryman at home, who has toiled and suffered to promote the good of his fellow beings, as the other has necessarily been engaged in their injury and destruction?

The spears and swords shall yet be beaten into pruning hooks and plow shares, but at the rate we are going on, it will be some time before this is done in the United States, among our professedly intelligent, reasonable, agricultural community.

FACT IN PLANTING LIMA BEANS.—On several occasions, complaints have been made, that Lima beans, sold at our warehouse, did not come up well, which was attributed to some bad quality in the seed; but the complaints appeared to us to be unfounded and unexplainable, as others, who bought seed from the same parcels, succeeded in raising good crops. In a recent conversation, however, with Mr. Jacob M. Vreland, an experienced market gardener, of Bergen Point, New Jersey, he informed us, that, if the beans are planted in a rather stiff soil, with their flat sides upward, or parallel with the surface, few, if any of them, will vegetate and grow; but if the eyes of the beans be carefully placed downward, at the time of planting, they will generally come up, if not covered with more than three fourths of an inch of earth.

EFFECTS OF CERTAIN MANURES ON PLANTS.—As a general rule, nitrogenous manures force the green leaf and stalk; the phosphates dispose to seed; the sulphates and salt to solidity; and potash to healthy and vigorous growth.

HINTS ON THE MANAGEMENT OF HORSES.—
No. 4.

Stables.—As to the sizes of stables, they may be of any dimensions, proportionate to the number of animals to be accommodated, provided the important considerations of adequate room and ventilation are duly considered. Strong plank divisions are necessary between each horse, though these need not extend over five feet in the rear of his head. They should be from four to five and a half feet wide, according to the size of the horse, to allow ample room for lying down and rising, without cramping or straining the animal. The horse that is used through the day, requires to lie down at night. He may, it is true, continue to live along and work, for an almost indefinite period, where the only sleep or rest he gets, is on his legs. But this is not natural, neither is it economical to his owner. When deprived of the comfort of lying in a roomy, airy position, and enjoying a perfect relaxation, a certain proportion of his muscular ability is abstracted, which he would otherwise retain, to expend in his speed or hard work. He has to eat more, and accomplish less than if treated in accordance with his natural habits, and the dictates of humanity. To tempt the horse to lie down as soon as his stomach is filled,

An abundance of litter ought to be provided, and if this be kept principally near the manger, it will serve his purpose for bedding, without much waste, provided the urine be drained from the horse by a slightly-inclined flooring, which should invariably be done. By shaking up the litter that has become damp, and allowing it to dry, it may be used again, unless from its abundance, it be an object to convert it into manure as speedily as possible, when it may be thrown upon the muck heap as fast as it becomes saturated.

There is no objection to double rows of stalls, provided they are so far apart, that vicious animals cannot hit each other from opposite sides, nor strike such as are led behind them. Where large numbers are kept together, there is some economy in room, and an advantage in ventilation, by using double rows, having an ample passage between them. Strong floors, incapable of breaking through, are important, if a horse's legs are to be kept whole. Almost equally necessary is it, that the sides, or divisions of the stalls, be smooth and sound, not splintered, nor with jagged corners, against which a restive horse may frequently injure himself.

Stable doors, and the passage to the stalls ought to be so wide and high, that a spirited horse will not be liable to injury in passing them; and they should be free from any projecting staples or other sharp points, either of wood or iron, that can possibly gall them. A horse can get through a door three and a half feet wide, if he walks leisurely; but it is better that it always be four and a half; and if there are many inmates, it is still better to have double doors, swinging six to eight feet, which allows for passing two at a time, and facilitates ventilation.

Height in stables is essential, as it tends materially to purify of air, and prevents injury from striking the head against the timbers.

Light for stables is too much neglected, but this

is an important consideration. If the stable is small, it may be adequately lighted by windows in the sides, or at the rear of the horses. A better plan, however, is to have a sky light from the roof, (where no flooring above is necessary,) and thus the light is evenly diffused throughout. But if no other opportunity is afforded, then small windows may be placed in front, if elevated above the heads of the animals, and the light will thus be thrown down in front and around them, without producing a glare, which is so prejudicial to their sight. A horse can see tolerably well in the dark, owing to the expansibility of the pupil of the eyes; yet, as this organ is intended for use when exposed to a full sunshine, it is important that the pupil be not habitually enlarged, for the purpose of sufficiently concentrating rays to see by. The effect is peculiarly bad, when the horse is brought suddenly into the light. This causes pain and a momentary blur in the eyes. The privation can never be long persisted in without serious detriment. Another bad effect, from the privation of light, results to the groom, as he has an excuse for neglect of that cleanliness, which ought to be preserved in every well-kept stable. Another advantage of well-arranged windows is, to be found in the facility for ventilation which they can supply. Fresh air is attainable wherever there is light, though the converse of the proposition is not always true. Occasionally it is better to shut off the light when the animal requires undisturbed rest, or for the purpose of ridding him from the torment of flies.

Racks, mangers, and feeding troughs are important fixtures in the arrangements of stables. Many discard the former entirely, but they have their advantages. When hay is not cut before feeding, it is always better to be eaten from a rack. By having this properly elevated, it habituates the animal to throw his head well up; and if sufficiently guarded, it prevents the waste too often associated with open boxes. But racks ought invariably to be accompanied with a trough at the bottom, which will catch the fine leaves, stems, and seeds that are shaken out of the hay, and which constitute its most nutritive portions.

Racks are usually made of wood, but round iron bars would be better and more durable; and if infection from a diseased horse is ever communicated to them, it is more easily removed. If of wood, the bars should be of hard timber, with a perfectly smooth surface. About two, or two and a half inches, is a suitable distance for them. The front ought to stand perpendicular, to facilitate reaching the hay without throwing the nose upward, which, in this position, is liable to inhale fragments of the hay. This is particularly objectionable for horses subject to heaves, or any affection of the lungs. The back of the rack should terminate at the bottom in contact with the bars, and slope upward high enough to contain from 10 to 15 lbs. of hay. The latter quantity should be seldom fed at once; and the former quantity, or even two thirds of it, is as much as is generally required for horses that are well grained. It is better to give less and feed oftener, as whatever is left over becomes soiled or distasteful to the horse, from his breath. Room is economized by placing the rack in one corner of the stall, where it need occupy but little

space, if the front be made circular, or form a straight line across the corner. Advantage should not be taken of this position to supply two horses from the same rack, on either side of two adjoining stalls. Each animal should have his own allowance of forage in his own dish, and be in no manner dependent upon his neighbor. The food is thus always under the control of the groom. But when fed from above, one aperture may serve for throwing down the hay into two, which are separated only by a thin board. When thus fed from above, a trap door should close the aperture tightly, to prevent the ascent of foul air from the stable, to impregnate and injure the hay. But where there are many animals together, unless the floor overhead is perfectly tight and well aired, it is better to have the hay on an adjoining floor; and it can be rolled compactly together and thrown over the top of the rack from the stall. A pronged hook will serve to draw to the floor above, any superfluous hay; or a door at the back, or if of iron, a small door in front, may be opened for this purpose.

Many persons prefer feeding cut hay, straw, or chaff, mixed with their oats or other provender, in which case, the rack is entirely superfluous. It must be confessed, that where arrangements are properly made, and not at loose ends, as in some badly-managed stables, the latter method is by far the better and more economical. In this case the manger requires to be placed breast high and sufficiently deep and wide to contain ample feed. This must be either of hard, smooth wood, or iron, tight, and firmly secured. Where the rack is used in one corner, a box for the horses' grain should occupy the opposite one, unless it be attached to the base of the racks.

Water may be brought into the stable when perfectly convenient, but this is not essential. If introduced, however, it should be entirely under the control of the groom, and let in or turned off at pleasure. It should flow only into a stone or iron basin, unless a trustworthy groom is employed, who will keep such as may be made of wood in a perfectly clean condition. There is, no doubt, an advantage in having water before the horse that he may drink as he requires it.

Salt is a preventive of many maladies, a corrective of the stomach, and should be supplied to the horse as he needs it. The most convenient mode of giving it, is by placing a lump of the *rock* or *mineral salt* in his manger, where he can lick it at his pleasure.

PROFITS OF ORANGE-COUNTY FARMING.—Mr. Jesse Owen, of Warwick, Orange county, N. Y., on a farm of 136 acres, made, in 1847, from six cows, 1,080 lbs. of butter, which, together with six calves and seven spring pigs, that were fed from the refuse of the dairy, sold for \$255, or \$42 50 cents to each cow. In 1848, the same number of cows, netted, in calves and pigs, \$43.50 each. This year, (1849,) he has sold, from the same number of cows, six calves, at the age of four weeks, for \$38.55. The other stock of this farm consists of two horses, seventeen steers and oxen, two calves, ten hogs, and eighteen pigs. The amount of hay cut per annum, is about 50 tons.

MR. ROBINSON'S TOUR.—NO. 8.

Louisiana.—On my way down the coast, to-day, from Algiers, opposite New Orleans, I first saw cane planting. The ground, which had corn upon it last summer, was broken up with four yoke of oxen, and thrown into beds eight feet from centre to centre, and a furrow opened in these with a double plow, followed by a triangular block of wood, to press out all the lumps, and make a wide, smooth furrow, into which the canes were carefully laid in double rows, and lightly covered with hoes. A great abundance of cuttings are used to insure a good stand. It requires one acre of growing cane to plant five acres.

J. P. Benjamin, Esq., 18 miles below the city, has yet forty acres of cane to grind. He has a complete Relieux apparatus, and all the appurtenances for making refined loaf sugar, direct from the cane. The refinery is under the direction of his brother, who is very successful in the business, and is making as good an article as ever need be called for. The expense of the refining apparatus was \$33,000. By this process, the sugar is not only increased in value, but five sixths of the molasses is used up; the remainder, that will not granulate, is sold as "sugarhouse molasses," which, though very thick and apparently good, is really the poorest molasses in market. The mass of it is the *glucose* of the cane, with just saccharine enough to sweeten it. I saw here, in operation, one of Bogardus' eccentric mills, to grind sugar, and another to grind corn; and both giving much satisfaction.

Mr. Stephen D. McCutcheon plows his land with three mules, planting 6½ feet apart, and opens the planting furrow with a "fluke," instead of a three-cornered block. The fluke is a very large double moldboard, iron plow, drawn by two good mules. The moldboards are made of boiler iron, 3½ feet long. He cuts his cane for planting, all in pieces, two feet in length, being careful to strip off all leaves. He has, this year, manured 40 acres as an experiment. But he hauls his bagasse out upon the levee, and throws it away.

Myrtle Grove, the next plantation below, owned by Messrs. Trufant and White, use about half of their bagasse for fuel. Mr. Trufant told me he could make steam with bagasse easier than with wood or coal. This plantation has no timber land. All back of the narrow strip in cultivation, is wet prairie, and would be very rich, if drained. They have a canal twenty-two feet wide, three feet deep, and three miles long, to lead water away from their steam-draining machine, by which only can the back part of the land, now in cultivation, be kept free from water, by an engine of 10-horse power. The water is lifted from two to four feet by a paddle wheel twenty feet in diameter. This works only one day a week, burning a cord and a half of wood, except in uncommon wet weather. The water, in the meantime, accumulates in the large leading ditch, on the back side of cultivated lands, two and a half miles long. Outside of these ditches, cattle are pastured on coarse prairie grass. The wood for this place has to be caught or bought, and is worth from \$2.50 to \$3 a cord. Coal is worth 20 cents per bushel. The cattle that run upon this prairie land, become almost amphi-

bious. They are fat in summer, and *live* through winter. None but the native, or Spanish cattle, which are really a very fine breed, can stand such fare, particularly with ten musquitos to every spear of grass they fish up from its watery bed. The soil of this place is unusually light, but has had the cream taken off by exhausting crops, without any return. Messrs. T. and W. purchased the place last year, of Mr. Packwood, the elder, at \$225,000, with all on it. There are 8,000 arpents of land, 700 in cultivation, 450 in cane last year, and 575 this year, balance corn, &c.; 139 slaves; 80 field hands; 55 working mules and horses; 50 oxen; 20 carts; 40 plows; 200 cattle, and a few sheep, but no hogs; good sugar house and machinery, with Relieux apparatus of three pans capable of making 12 to 14 hogsheads a day, or three hogheads at a strike. The sugar house and machinery is valued at \$50,000. The other buildings are good; the negro houses built of brick, with elevated floors, 32 feet square, divided into four rooms, with chimney in the centre. There are twelve of these. The last crop was 700 hogheads of clarified sugar, which usually sells, in hogheads, from 5 to 6 cents per pound. The molasses will not probably exceed 20 gallons to the hoghead, if it does that.

The next place below Myrtle Grove, is that of Col. Maunsel White, heretofore described in the *Agriculturist*, by R. L. Allen. His front fence, some three miles long, is made of three boards, whitewashed, upon posts set in a bank, upon which is a hedge, or rather thick row of sour orange trees, many of them loaded with fruit glittering through the handsomest foliage in the world. Col. White, as well as his next neighbor below, Robert A. Wilkinson, and, in fact, nearly all the large planters on this part of the coast, have to use draining machines. The strip and tillable land is very narrow, though all the back lands might be drained at less expense, in the aggregate, than is now done to drain a small portion of each plantation. Such a system as is in operation in Holland, would soon make the swamps of Louisiana tillable, and bring many thousands of acres of the finest sugar lands in the world into use, which are now only fit for breeding alligators, musquitos, and fevers.

Mr. Wilkinson lifts his water five feet in an immense volume, say 1,000 gallons a minute. This drains 400 arpents. He has 1,000 arpents in the tract, 200 of which, in front, has elevation enough to drain by ditches, and the remainder by machinery. He designs to put the back lands in order for rice, using the same water that he lifts from his sugar land, to flood the rice fields, when needed. Mr. W. believes that all these lands could be drained by windmill. His father, J. B. Wilkinson, (son of the old General,) has lived here, on the adjoining place, twenty-eight years. The cane upon this plantation, and several others near, is as green as in summer. Mr. W. makes refined loaf sugar direct from it, by Relieux apparatus. So does Mr. George Johnson, the next place below. Robert A. Wilkinson makes refined, (hoghead,) sugar by Howard's vacuum pan; and Mr. Osgood, a few miles below, makes the same kind by vacuum

pans from the Novelty Works. Mr. Osgood has greatly increased the product of his land by deep plowing, and the use of subsoil plows, abundant ditching, and manuring, at the rate of 100 cart loads to the arpent, with old rotten bagasse, stable manure, and pea vines. Having no wood, except drift, he saves bagasse for fuel, or else would make manure of it, as he has proved its value to be great when fully rotted. His front fence is two and a half miles long, nearly all formed with a hedge of *Yucca gloriosa*, called here, "Spanish bayonet," "Pete," and several other local names. Although rather ragged in appearance, and interrupted by sundry negro paths, it is a good fence. Mr. O. assures me that no animal, not even a hog, will attempt to go through one of these paths. The points of the leaves are so hard and sharp, that everything is afraid to come near it. It needs topping every year, and all the tops that fall between the rows are allowed to remain and grow, and those that fall outside must all be removed, or they will grow and increase the width of the hedge row too much. The annual trimming and growth of new plants every year, is the whole secret of keeping up these fences. When they are neglected, they soon become unsightly and inefficient. The first setting of the hedge is very easy, as it is done by cuttings slightly planted in two rows, about two feet apart, and ten or twelve inches from one to the other, set opposite to the spaces of the opposite row. After getting large enough to trim, say in three or four years, the spaces all fill up with new plants. I think it the best hedge plant for this climate and soil, that I know of. Mr. O., however, is about to try the *bois d'arc* (*Osage orange*). I have no faith in his success, as it naturally grows to a tree.

To show what a little energy and determination may accomplish, in time of trouble, I wish to state that Mr. Osgood has an orangery the fruit of which he has just sold on the trees for \$550, besides making a very large reservation for himself and friends. But to the point. When all the orange trees were winter killed, in 1834-5, Mrs. Osgood, then living, immediately had the present orchard planted, the trees of which, as large as my body, and now 40 feet high, are loaded with most delicious-looking fruit. There are also an abundance of lemons here, too. So much for the active energy of woman, and determination to have an orchard, notwithstanding the loss of one set of trees. There are many other places where oranges are plenty, but many others where there are none. But very few persons think of growing them for sale.

Mr. Osgood once built a railroad through the centre of his plantation, which is long and narrow, to bring the cane to the sugar house; but, after a few years' trial, he found it did not pay cost, and pulled it all up, except from the sugar house to the river bank, and from the bagasse sheds to the sugar house. Although these railroad experiments continue to be tried by persons as sanguine in the belief of their advantage as was Mr. O., yet I have no doubt, that they will all follow suit. For the use of only six or eight weeks, when timber will not last over six or eight years, and when the cane has to be loaded into carts to be brought to the cars, however pretty the theory, the practice is not so

perfect. A plank road would undoubtedly be better, and that would be expensive, unless the wonderful rapid decay of timber could be prevented.

Mr. Osgood is one of those who keeps sheep for somebody else to shear. He told me, that, a few years ago, he had no trouble in getting his sheep sheared. Every spring, one of them 'cute Yankees used to come along in his boat and shear the sheep and carry off the wool without any trouble.

Yesterday, when I left Mr. Wilkinson's, he was still cutting cane, growing green as ever; though this is unusual.

January 16th, 1849.

FARM OF MR. BOLLING, IN VIRGINIA.

ONE of the most interesting places that I have visited, during my long journey through the southern states, is the farm of Robert B. Bolling, at Sandy Point, on the James River, 70 miles below Richmond, and 65 above Norfolk, at the junction of the Chickahominy. It is the old Lightfoot estate, and contains about 7,000 acres, 2,700 of which, in one enclosure, Mr. B. has in cultivation; that is, 1,000 acres in wheat, 535 in corn, 50 in oats, and the remainder is one half in clover, and the other half in fallow, including the necessary ground for yards, gardens, buildings, and roads, which are plenty and good. Of course, the quantity of acres, in the different crops, vary slightly with each year.

Mr. Bolling resides mostly in Petersburg, and the farm is under the superintendence of Mr. Nichol, a very intelligent Scotchman; yet, it is plain to see, that the owner, unlike many others, is the master spirit that guides all. Having heard of the vast improvements that he had made upon this old worn-out place, which came into his possession a few years ago, I called upon him at Petersburg, and expressed a desire to see it; when he readily offered to go down with me, so that I had the pleasure and advantage of his company while there. When he came in possession, in 1835, the yield of wheat, per acre, was three and a half bushels; though he thinks a fair yield, if the season had been good, might have been nearly double that. The average, for several years, has been from 15 to 18 bushels, and upon some lots of one to three hundred acres, he has averaged 24 to 37 bushels. If it had not been for the frost, in April, it would probably have averaged, this year, over 20 bushels upon the whole thousand. This has been brought about principally by lime. The first dressing, he gave fifty bushels to the acre; the second one, thirty five bushels; and the third one, the same; in all, 120 bushels. The present cost of slacked lime, at his wharf, is six and a half cents a bushel. Some of his cost more. The former average yield of corn was ten to fifteen; now thirty five bushels to the acre. His crop of corn, last year, was 18,000 bushels, 12,000 of which sold at 45 cents on board the vessel at home. The remainder, as large as the pile may seem to some of our New-England farmers, was needed for consumption upon the place. Mr. B.'s wheat crop of last year was 14,000 bushels, which sold on board at 85 cents. The highest price, any year, \$1.30. Average price, \$1; average price of corn, 55 cents; highest price, 90 cents. Besides lime, he uses plaster, bones, manure, and dry straw, as fer-

tilizers, and thus produces most abundant crops of clover; and so, not only keeps up the fertility of the soil, but, by this course, has greatly more than doubled the crops, and made the farm very profitable; but it is increasing in fertility and value every year.

Mr. B. pursues the five-field system; that is, a rotation of, 1st, corn; 2d, wheat; 3d, clover; 4th, wheat; 5th, fallow. Upon the fallow, which, however, is well coated with volunteer clover, the straw is spread, and with lime, if required. He commences seeding in, first week in October, and finishes, if possible, by 10th November; quantity of seed, per acre, from 1½ to 1½ bushels; harvests, 15th to 20th of June; cuts wheat with cradles. He thinks, where laborers are plenty and cheap, that reaping machines are not an object of importance. He owns 180 servants, one half of whom are working hands in the field; and during harvest he hires 80 or 100 more.

As soon as the wheat is harvested, the wagons commence bringing it to the granary; and here the ingenuity of man and the power of steam begin to show how wonderfully this great giant can be made to help the cultivator of the soil. A constant stream of sheaves are flying from the wagons outside, and as they light upon the floor, are caught up, the bands cut, and thrust into two great threshing machines, that stand side by side, and this is the last that man is required to do with grain or straw. The one passes out, and far away from the building; and the other, after falling down into the winnowing machine, is thus cleaned, and then taken by elevators to the top of the three-story building, and there distributed into the different store rooms, which are capable of holding 40,000 bushels. A thousand bushels can be thus threshed and put up every day. When sold, and ready to be shipped, it is let down through a spout into a car that runs upon a railway directly over the hatchway of the vessel, lying at a fine new wharf, a few hundred feet from the granary; and in one second of time the car load is emptied into the hold, and in two minutes more is back, and ready for another load.

The largest crop of wheat ever raised upon this place, before Mr. Bolling commenced improving it, was 7,000 bushels. Mr. B.'s largest crop, was 17,000 bushels. The increase of one crop alone, is sufficient to pay for all the improvements of the fertility of the soil, and leave a handsome surplus. The wheat barn, which cost \$8,000, is 36 by 80 feet, three stories upon one side, besides a cockloft floor. To the same building is joined a sawmill, grist mill, plaster mill, and bone mill, besides the threshers and cornsheller, all of which are driven by a sixteen-horse-power engine, costing \$1,600, and all built in the most permanent and substantial manner.

The team force upon this place are 39 horses and mules, and 36 oxen—always runs twelve plows, three mules to each, and as deep as they can pull it through a free, clayey-loam soil, which is comparatively level. The other stock upon the place, 125 head of cattle, 150 of sheep, and 140 hogs.

Corn is planted from April 25th to May 5th, 5½ by 1½ feet apart, covered with a harrow, the lumps scraped off with a board, tended with double-shovel plow, and the corn stalks cut and spread like straw

upon the surface to rot. But it is found that this system of shading the ground with straw, is more beneficial than a good dressing of manure without shade. (a)

In summer, the stock are all grazed upon the appropriate parts of the place, under charge of a herdsman, much cheaper than they could be by a vexatious system of cross fences.

Mr. B. has 4,000 acres of timber land, which he offers for sale at the very low price of \$20 per acre. The timber, so near such a navigable river, would be more than clear the land, and then the soil would be as good as that which he has in cultivation. The farm, including, say 500 acres of timber, is valued at about \$40 per acre, . . . \$132,000

180 negroes, at \$300 average, each, . . .	54,000
125 head of cattle, at \$10, . . .	1,250
150 sheep, at \$3, . . .	450
140 hogs, . . .	500
40 horses and mules, \$60, . . .	2,400
6 ox carts, 3 tumbrils, 8 wagons, 2 log do., . . .	1,000
13 plows, at \$15, . . .	195
Other tools, . . .	1,500
	<hr/>
	\$193,295

The simple interest upon all this, at 7 per cent., would produce the snug little annual income of \$13,530.65. But the sales amounted to \$17,300, for corn and wheat last year, \$3,870 more than simple interest, from which, however, the current expenses must be deducted. The amount of these, I have not now on hand. Mr. B.'s people are all well fed and clothed, and have excellent houses, which, unlike the more southern fashion, are all scattered over the place—a plan that is, in some respects, preferable to that of congregating them in villages.

Many of the roads through the place are lined with red cedars, which make beautiful drives, and fine shades for man and beast, and add greatly to the beauty of the scene. The whole farm can be viewed from the observatory, on the barn, and including the river and opposite shore, covered with forest and underlaid with immense beds of shell marl, with Jamestown Island in the distance, it presents a scene of surpassing beauty. One of the curiosities of this old farm, is a box hedge, some ten or twelve rods long, twenty feet high, and very thick, which has exhibited the same appearance for the last hundred years. — SOLON ROBINSON.

(a) This system of shading the ground, is called "Gurneyism," a notice of which is given at p. 203, of our fifth volume.

HORIZONTAL PLOWING.

SIDE hills ought always to be plowed with a horizontal furrow, instead of running it up and down, or slanting it towards the bottom of the hill with too great an inclination. This will sometimes require considerable skill to preserve a nearly horizontal position, when the hills are thrown together in all directions, and are short. But with care, it can at all times be accomplished, with the use of a spirit level, or a plumb and square. The furrows are made to circle around the hill and follow them in any direction, however short or crooked, it may be necessary to make them. In many

portions of the southern states, the heavy rains falling upon lands inclined to wash, have worn away nearly all the soil, and left barrenness and desolation where fertility before existed. An inclination of one foot in ten or twelve, is sufficient to lead off the water. This inclination is essential, as if made entirely level, the water would break over and force its own way down the hill, gullying equally bad, as if allowed to follow each of the furrows in this direction.

COL. CAPRON'S IMPROVED WIRE FENCE.

A VERY valuable improvement in the mode of constructing wire fence has lately been made and carried into practice by Col. H. Capron, of Laurel Factory, Maryland. The following description is from his own pen, as published in the "American Farmer;" but all who are desirous of erecting such fence, I think it would be well worth their attention to make him a visit, which would be much more satisfactory than anything that could be written by him or me:—

The fence I have constructed is for an outside fence, to protect against all kinds of half-starved quadrupeds, long-nosed, hungry hogs, by hundreds, included.

For a division fence, where it is only required to fence against horse, cattle, and sheep, a much simpler and cheaper fence may be made, and one more easily moved. For this purpose, the bottom board and strips may be dispensed with.

I have put the permanent iron posts 150 feet apart. I think the distance should be from 75 to 100 feet, which would add a trifle to the expense, and make a more substantial, durable, and beautiful fence.

I have used No. 5 wire, as I wanted it for hard usage. No. 7 wire will answer quite as well, in most places, and cost less per running foot. The wire which I used was made to order, at the telegraph-wire factory, and in coils of 1,000 feet in length—cost 8½ cent per pound. Good No. 5 wire can be purchased for 5½ cents per pound, in lengths of about 50 feet. This would require to be joined, which, I think, can be better done than at the factory; as, in the joints made at the factory, the wire is twisted too short, more for looks than strength, and breaks easily at these points.

The accompanying sketch will give you an idea of the manner of constructing this fence.

In the framework *B, c*, is a wooden cylinder, (in this case, part of an old mill shaft,) about 28 inches in circumference, three feet long, suspended in the wooden frame by gudgeons of 1½-inch round iron, driven into the ends, and secured by a band sunk into the wood, to prevent splitting, and wedged. *D*, is a strong oak lever, eight feet long, three by six. *E*, is a granite stone, weight of about 150 pounds, with an iron strap over the lever, to slide up and down, as required, to give the proper tension to the wires, which also raises and falls, to accommodate the contraction and expansion of the wires. *G*, is a bar of iron, 1½ inches square, drilled out to match the holes in the iron posts. *G, G, G, G, G, G*, are iron hooks, of ½-inch iron, running through the bar *F*, and spiral springs *H, H, H, H, H, H*, and secured by nuts, as represented in the cut. *This is for equalizing the tension of the wires.* These spiral springs may be

made of $\frac{3}{8}$ iron rods. *I, I*, is a strong log chain, for attaching this iron bar to the cylinder *C*, by a bolt passing down through one of the links, as represented, by which the chain may be taken up or lengthened, as desired. *K, K*, is a bottom

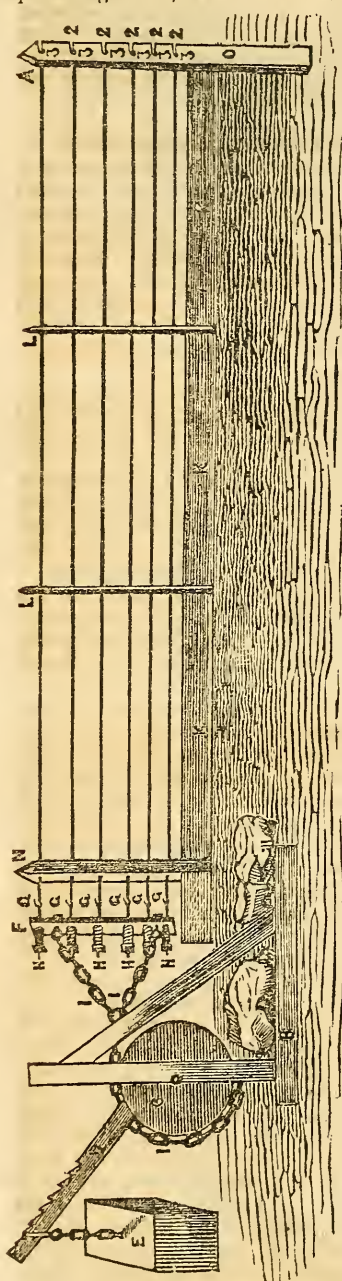


FIG. 66.

The above cut represents an extension of wires in a section of fence, with bottom boards and strips for holding and supporting the same, &c. *A*, represents a side view of the permanent iron posts, made of flat bars of iron, 3 inches wide, $\frac{1}{4}$ inch thick. 3, 3, 3, 3, are holes drilled through, about 1 inch from the outer edge, for the wires to pass through. 2, 2, 2, 2, 2, are slits cut into the bars, just over the holes, to slip the wires into their places. These slits are filled with a hard wood key, to keep the wires down, and trimmed off even with the post. *B*, is a solid framework and lever, with fixtures for equalizing the tension of the wires, and to accommodate the contraction and expansion—keeping them always the same, under every change of temperature.

extremity of the line, it is evident they can be drawn to any required tightness that the strength of the wires will permit, and the contraction and expansion of the wires be accommodated, by the rising and setting of the lever and weight. This apparatus, in the fence I have constructed, takes up the expansion, and lets out for the contraction, for a line of fence of 3,500 feet, with one bend of about 30 degrees, and sundry inequalities in the surface, or horizontal line.

For short lines of fence, this apparatus may be dispensed with, where hogs are not allowed to run. But, even in short lines, the wires may be so slackened, in a hot day, that a long-nosed hog may wedge his way through. The apparatus itself, however, is easily constructed, and of little comparative cost.

To save trouble in the construction of this fence, I will give you a short direction how to proceed, which I have learned by experience, and may save others some useless expense, which the want of experience put me to.

Put your framework down permanently in the ground, and secure both extremities of the line beyond the possibility of being moved. Bore out, with a post auger, holes $2\frac{1}{2}$ feet deep, 100 feet apart, on a perfect straight line, for your permanent posts.

Set the, (iron,) permanent posts in, and ram round well with stone, and pour in grout. It is necessary to have one very strong post, *N*, (mine is a hollow cast iron, five inches square,) about eight feet from the cylinder, and stayed at top with wires or rods, made fast to the framework, to hold the wires as they are stretched up, one at a time, during the construction. Stretch out one wire at a time; joint it, and make it fast at the further extremity of the line; lay it into its place in the posts, and attach the chain to the end of it; then, by the use of the lever and cylinder, draw it to the desired tension, and key it there in the post *N*. So proceed until all are drawn up. Then attach the spiral springs, hooks, and bar to the wires and cylinder, by the chain, as shown in the sketch; hang on the weight, knock out the keys in the permanent post *N*, and the work is done.

If the bottom board and strips are used, they can now be put on. If large coils of wire are used, they should be put upon a reel before they are unfastened, or they will kink up and give much trouble. In my case, I slipped the coil of wire on the cylinder *C*, and put strong oak pins on each side of the coil, to keep it up snug; it then wound off without trouble.

To remove a line of this fence, knock out the keys 2, 2, 2, 2, 2, 2, in the iron posts; throw the wires out upon the ground; attach a horse or other power to the end of the wires, and haul them round to the new line; set in your framework and posts, and put in your wires. In this way, two or three hands and a horse may remove a mile of fence in a few days.

I have a very simple apparatus for taking the kinks out of the wires, which I will give you a sketch of, when I make up the cost of construction. Good oak, locust, or cedar posts will answer in place of the iron.

R.

New York, July 5th, 1849.

board, 14 inches wide. *L, L*, are strips, 1 inch by 3, notched upon the wires, eight feet apart, to support the bottom board.

With this powerful apparatus, the wires being in their places, and properly secured at the other

Ladies' Department.

DIRECTIONS FOR BOILING RICE.

TAKE one pint of rice, wash it, and put it in soak for two hours. Have ready two quarts of boiling water, with a little salt in it, in a stew pan. Half an hour before you wish to use it, pour the water in which the rice is soaked from it, and with a tablespoon, shake the rice into the stew pan without stirring it, and let it boil ten minutes; then strain the liquid from the rice. Return the rice to the stew pan, and let it steam for 15 or 20 minutes, when it will be done, and the grains will be separate. Add a little butter, and send it to the table.

The above is the proper way to cook rice, which is important to know, as we are now prevented from using almost all other kinds of vegetables. This recipe is furnished by a lady in whose family it has been a regular dish on the dinner table, since 1832.—*Baltimore American*.

TO PREVENT MILK SOURING DURING THUNDER STORMS.

WE have heard great complaints from dairy women, about their milk getting sour during a thunder storm, although perfectly sweet a short time previous. The following plans, suggested by a correspondent, will prevent this in a great degree. All the pans containing the milk, ought to be placed upon non-conductors of electricity, such as blocks of baked wood, pieces of glass, or wood that has been well painted and varnished. The following articles are most easily provided:—Beeswax, feathers, and woolen cloth are also non-conductors, but inconvenient to be used. All these articles will insulate the pans; and prevent the electric fluid from entering, which is the cause of acidity; or is, in fact, the principle of acidity itself. If glass basins were substituted for tin pans, the plan would be better still, and there would then be no necessity for the practice suggested above. The glass would preserve the milk much longer sweet than pans, and the acid would have no effect upon it. We are not aware of any acid that has the least impression on glass, except the fluoric acid. All iron vessels, or vessels compounded of iron, as tin pans, attract the heat very readily, and, of course, sour the milk; and such is the affinity of iron for an acid, that we doubt much if it is ever washed out entirely. Iron vessels, we are confident, are the very worst that could be used for the purpose; they are even inferior to wood.

PITHY HINTS.—Snuff, on the necks and backs of calves and young cattle, will do more good than in the nose of any maiden lady or dandy bachelor; and brimstone bought for the hogs, will not prove that the itch has got into the house. Cards, on the cattle, make them look as much better as children with their hair combed. A clean barn is a hint to the woman who takes care of the kitchen. Good milking stools save much washing in the house. A scraper on the door step saves brooms and dust.—*Exchange*.

HOUSE BUGS.—To prevent these troublesome insects, use bedsteads that have no holes through them, which screw together so tightly as to leave no cavities; use board slats instead of cords; and if there is any appearance of bugs, apply corrosive sublimate and cheap rum, whiskey, or alcohol to the places where they are likely to lodge themselves. It may be applied with a feather only once a-week. If the bugs come out of the wall or floor, set the bedstead where it cannot come in contact with them, and occasionally apply the above-named solution around the bottom of the bed posts and on the floor where they stand.

WORKING WOMEN.—Women, so amiable in themselves, are never so amiable as when they are useful; and for beauty, though men may fall in love with girls at play, there is nothing to make them stand to their love like *seeing them at work*.—*Cobbet*.

Boys' Department.

A DOCILE, SAGACIOUS BULL.

BOYS, when you come to be grown men, and have stallions, bulls, and rams for breeding, on your farms, among other good points, or qualifications, don't forget what we think the most important, namely, a gentle disposition, or, in other words, *kind temper*. Many a person has been killed by ferocious males and even females; you will see, therefore, that, in propagating such animals, you endanger your own lives as well as those of others. Our rule is, however good an animal may be in other respects, if wanting in docile disposition, not to breed from it.

We will now tell you a story of a Durham bull which belongs to Prince Albert, the husband of Queen Victoria, of England. This bull is kept in the little park at Windsor, so called, to distinguish it from the great park, at the head of which stands Windsor Castle, one of the largest and most magnificent buildings in Europe, and the principal summer residence of the Queen and Prince. This animal, possessing a kind temper, had been taught to work alone in a cart, like a horse. He made himself very useful in this capacity; and was of such great strength, that he would take a load of more than 6,000 pounds, (three tons,) along a level road with as much ease, and perhaps more, than any one of you could trundle a wheelbarrow load of dirt not weighing over 100 pounds.

Well, one day, after a hard morning's work, they turned him out into the park to feed and refresh himself on the rich grass that was growing there. In the same pasture was another bull, which proved to be of a vicious temper; for no sooner did he espy a farm laborer from the adjoining field attempt to pass through the pasture, than he commenced bellowing and pawing, and then rushed forward with all his might, determined to gore him to death. The ferocious beast had knocked the man down, and was in the act of stooping to toss him on his horns, when the kind-tempered Durham bull seeing his extreme danger, set off on a full run to his rescue. He came up with such prodigious force as to knock the wicked bull prostrate at a single blow

of his head. He then commenced affectionately licking the fallen man, which so revived him, that he turned over, and perceiving that it was the friendly Durham bull, he at length got strength to rise up, when mounting the back of his dumb friend he was soon carried out of danger.

Now, boys, you will see the safety of possessing good-tempered animals; and there is not only superior safety, but greater utility in them; for they will consume less food, do more work, give more milk, if females, and finally fatten better, and of course be more valuable through life, and in the end.

SWIMMING.

WE subjoin from an excellent little treatise on the Art of Swimming, lately published by Fowlers and Wells, 131 Nassau street, N. Y., what should occupy the attention of every boy till he has become thoroughly acquainted with the practice. Most persons find it essential, in the course of their lives, to know how to swim. This knowledge is often the sole protection of life itself; and the self-reliance, this gives to one, prevents that apprehension, which sometimes incurs "a thousand deaths in fearing one." Besides the safety thus secured when accidentally thrown into deep water, swimming often prolongs life, and imparts to it a higher zest from its inducing the healthful and luxurious pastime of frequent bathing. We say, then, to all boys, old and young, select some appropriate place, and after carefully guarding against accidents, commence and persevere in the practice till you feel as secure in the water as a duck.



AIDS IN LEARNING TO SWIM.—FIG. 57.

Aids in Learning to Swim.—Probably one of the best ways of learning to swim is to go, with a competent teacher, in a boat into deep water, this supporting the body more buoyantly than that which is shallower, and preventing the constant tendency of beginners to touch bottom; which here, of course, is impossible. The teacher should fasten a rope carefully around the waist, or, better still, to a belt, which can neither tighten nor slip down. The rope may be fastened to a short pole. Supported in this manner, the pupil may take his proper position in the water, and practise the necessary motions, and the support of the rope may be gradually lessened, until the pupil finds himself entirely supported by the water.



SWIMMING WITH A PLANK.—FIG. 58.

Swimming with a Plank.—Swimming with a

plank has two advantages. The young bather has always the means of saving himself from the effects of a sudden cramp, and he can practise with facility the necessary motions with the legs and feet, aided by the momentum of the plank. A piece of light wood, three or four feet long, two feet wide, and about two inches thick, will answer very well for this purpose. The chin may be rested upon the end, and the arms used; but this must be done carefully, or the support may go beyond the young swimmer's reach.



SWIMMING WITH THE ROPE.—FIG. 59.

Swimming with the Rope.—The rope is another artificial support, which has its advantages. It may be attached to a pole, fastened—and mind that it be well fastened—in the bank, or it may be attached, as shown in the engraving, to the branch of an overhanging tree. Taken in the hands, the swimmer may practise with his legs, or by holding it in his teeth, he may use all his limbs at once. The rope, however, is not so good as the plank, as it allows of less freedom of motion, and the latter might easily be so fixed as to be laid hold of by the teeth, and held securely.



PLUNGING, OR DIVING.—FIG. 60.

Plunging, or Diving.—In leaping into the water, feet first, which is done from rocks, bridges, and even from the yards and masts of lofty vessels, the feet must be kept close together, and the arms either held close to the side, or over the head. In diving head foremost, the hands must be put together, as in the engraving, so as to divide the water before the head. The hands are also in a proper position for striking out.

It is wonderful how easily the swimmer directs his course under water. If he wishes to go down or come up, or swim to the right or left, he has but to bend his head and body in that direction, and after a little use he will do this almost unconsciously, as if his movements were the result of volition alone.



TREADING WATER.—FIG. 61.

Treading Water.—This is a favorite position in the water, and useful as a means of resting in swimming long distances. The position is perpendicular; the hands are placed upon the hips, as in the engraving, or kept close to the side, to assist in balancing the body, being moved like fins, at the wrist only. The feet are pushed down alternately, so as to support the head above water; and the body may be raised in this way to a considerable extent. While in this position, if the head be thrown back, so as to bring the nose and mouth uppermost, and the chest somewhat inflated, the swimmer may sink till his head is nearly covered, and remain for any length of time in this position without motion, taking care to breathe very slowly.



SIDE SWIMMING.—FIG. 62.

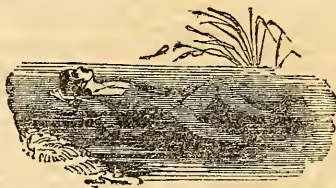
Side Swimming.—In swimming on either side, the motions of the legs have no alteration, but are performed as usual. To swim on the left side, lower that side, which is done with the slightest effort, and requires no instructions. Then strike forward with the left hand, and sideways with the right, keeping the back of the latter to the front, with the thumb side downward, so as to act as an oar. In turning on the other side, strike out with the right hand, and use the left for an oar. To swim on each side alternately, stretch out the lower arm the instant that a strike is made by the feet, and strike with the other arm on a level with the head, at the instant that the feet are urging the swimmer forward; and while the upper hand is carried forward, and the feet are contracted, the lower hand must be drawn toward the body. This method is full of variety, and capable of great rapidity, but it is also very fatiguing.



THRUSTING.—FIG. 63.

Thrusting.—This is a beautiful variety of this exercise, and much used by accomplished swimmers. The legs and feet are worked as in ordinary swimming, but the hands and arms very differently.

One arm—say the right—should be lifted wholly out of the water, thrust forward to its utmost reaching, and then dropped upon the water with the hand hollowed, and then brought back by a powerful movement, pulling the water towards the opposite armpit. At the same time, the body must be sustained and steadied by the left hand, working in a small circle, and as the right arm comes back from its far reach to the armpit, the left is carrying in an easy sweep from the breast to the hip. The left arm is thrust forward alternately with the right, and by these varied movements great rapidity is combined with much ease.

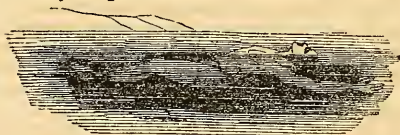


SWIMMING ON THE BACK.—FIG. 64.

Swimming on the Back.—This is the easiest of all modes of swimming, because in this way a larger portion of the body is supported by the water. It is very useful to rest the swimmer from the greater exertion of more rapid methods, and especially when a long continuance in deep water is unavoidable. The swimmer can turn easily to this position, or, if learning, he has but to incline slowly backwards, keeping his head on a line with his body, and letting his ears sink below the surface. Then, placing his hands upon his hips, he can push himself along with his feet and legs with perfect ease, and considerable rapidity.

The hands may be used to assist in propelling, in this mode, by bringing them up edgewise towards the arm pits, and then pushing them down, the fingers fronting inward, and the thumb part down. This is called "winging."

The hands may be used at discretion, the application of force in one direction, of course, giving motion in the other; and the best methods are soon learned when once the pupil has acquired confidence in his buoyant powers.



FLOATING.—FIG. 65.

Floating.—This is so useful a part of the art of swimming, that it cannot be too soon obtained. In salt water, nothing is easier; and in fresh, to most persons, it requires but the slightest exertion. The feet should be stretched out, and the arms extended upward, so as to be at least as high as the top of the head, and under water. The head must be held back, the chin raised, and the chest expanded. The hands will easily keep the body in this horizontal position, and, by breathing carefully, a person may float at ease for hours. Could a person, unable to swim, but have the presence of mind to take this position, he could never drown.

FOREIGN AGRICULTURAL NEWS.

By the steamer *Caledonia*, we are in receipt of our foreign journals to July 7th.

MARKETS.—The transactions in *Cotton* were large at an advance of $\frac{1}{4}$ d. per lb. *Wheat*, a small advance. *Indian Corn*, a trifling decline. Other articles of American produce firm and in good demand.

Money, very plenty, at $2\frac{1}{4}$ to 3 per cent.

Remedy for Mildew on Grapes.—Fine sulphur, strewn around the vines, will kill, or prevent, mildew, if early applied.—*Gardeners' Chronicle*.

Lime Water.—Take a quantity of fresh-burnt lime pour over it 20 or 30 times its measure of water. Stir them well together; then let the lime settle, and pour off the clear fluid, which is lime water. This will kill slugs and worms, if poured over them, but will not injure the plants.—*Id.*

Top-Dressing for Wheat.—One cwt. of nitrate of soda, and one cwt. of sulphate of ammonia, per acre, sown broadcast, in wet weather, will give a most luxuriant foliage and abundant yield.—*Id.*

To Preserve Green Peas for Winter Use.—To preserve green peas for winter use, they should be dried in a cool oven, and hung up in paper bags.—*Id.*

State of the Crops in Ireland.—The harvest prospects, in Ireland, which now engage the anxious attention of all classes, afford ground for hope that with abundant crops, the country may begin to recover from the utter prostration resulting from the total exhaustion of its resources during a protracted famine. There is not a single exception, in the accounts to the general report of the highly favorable progress of the crops of all kinds, including potatoes. There is a great breadth of wheat in the southern and midland counties, which is described as thick, high, and full, with all the appearance of health and vigor.

Acorns in Spain.—The acorns, in Spain, are still called *bellota*, the Arabic *bellot*—*bellot* being the scriptural term for the tree and the gland which, with water, formed the original diet of the aboriginal Iberian, as well as of his pig. When dry, the acorns were ground, say the classical authors, into bread; and when fresh, they were served up as the second course. And in our time, ladies of high rank at Madrid constantly eat them at the opera and elsewhere. These were the presents sent by Sancho Panza's wife to the Duchess; and formed the text on which Don Quixote preached so eloquently to the goat herds, on the joys and innocence of the Golden Age and pastoral happiness, in which they constituted the foundation of the kitchen.—*Ford's Gatherings in Spain*.

A New Variety of Honeysuckle.—There is now in full flower, at Fortune Cottage, near Garstang, belonging to Mr. Tongue, a most splendid new variety of honeysuckle, which he has obtained by hybridizing. It is supposed to be the most splendid private collection in Europe, comprising, at present, 6,000 plants, all growing upon the surface. They appear like one complete mass of flowers, and they have cost him upwards of five years' labor in bringing them to their present perfect state.—*Mark-Lane Express*.

Management of Manure.—All manure made before winter may be plowed under in its long and strawy condition, provided the land be clean; but spring-made manure must be at least twice turned, first, in the operation of removing it from the yards to heaps; and secondly, once in the heap, a fortnight or so before use. The economical farmer will endeavor to diminish the loss during the rotting process, by covering the heaps with earth so far as that is possible. The use of cut litter is not economical of straw.—*Id.*

Pruning Beans.—The "London Agricultural Gazette" believes it to be advantageous to cut off the tops of beans, after they have fully flowered.

A New Remedy for the Potato Disease.—In a Belgian newspaper appears a circular dispatch, which has been lately addressed by the Minister of the Interior to the governors of provinces in that country, wherein it is recommended that "when the haulm is full grown, that is to say, shortly after flowering, the stems should be cut down to the ground carefully, so as not to disturb the tubers, and the soil then covered about an inch deep with earth, so as to keep them from contact with the air. This layer to remain till the tubers are ripe. A. M. Tombelle-Lomba, a farmer of Namur, asserts that, by adopting this plan, his potatoes are every year as good as they were before the appearance of this disease.

Application of Liquid Manure.—To apply liquid manure with advantage, a little ordinary care is required. It should always be borne in mind, that, during warm and dry weather, plants absorb fluids faster than when it is dull and cool, and that they perspire most in a dry warm atmosphere. If the supply at the root, therefore, is not kept up, then they become deteriorated in quality, and the produce is considerably lessened. The common practice of pouring manure water immediately around the stem of a plant, should be avoided, for two reasons; first, the roots which absorb most are in, or approaching, the centres of the spaces between the rows; therefore, to be benefited by it, the liquid should be distributed there. Another very important matter, in common with vegetable culture, should not be lost sight of; by applying the liquid in a limited circle round the plants individually, the roots have less inducement to travel far in search of food; hence, they are fewer in number. But if their food is placed at a greater, yet reasonable distance from them, they will seek it out, fresh roots will be emitted, and they will have a much larger field to feed in.—*Agricultural Gazette*.

Produce of Guernsey Cows.—The following is the produce of five Guernsey cows, in one year, as given in the last Annual Report of the Proceedings of the Royal Agricultural Society of Guernsey:—

Butter, 1,340 lbs.; sold on an average at	£	s.	d.
1s. $3\frac{1}{4}$ d. per lb.,	.	86	10 10
Milk sold, . . . . .	.	4	3 3
One fat bull calf, . . . . .	.	2	8 10
Four heifer calves, . . . . .	.	3	0 0
Churned milk, at 1s. per gallon, . . . . .	.	11	3 0

£107 5 11

How to Make Guano.—A gentleman, walking on the beach, in the vicinity of Harwick, observed a man busily engaged with a pickaxe, raising a material from the lower part of the cliff, and on asking him his employment, was told "he was raising stones for manure." This rather puzzled our friend, who became more minute in his inquiries. The man observed:—"These, which look like stones, are crystallized fish, and, although very hard now, will, when put through a mill, crumble to powder. My master ships a great quantity of it to London, there to be ground, and then mixed with guano to give it weight.—*English Paper*.

Soot and Brick Dust as Medicine for Poultry.—Soot is a very ancient remedy among old-fashioned housewives, actually possessing aperient and active properties. Red brick dust has also peculiar effects, as well as small pebbles and sand, which poultry will sometimes eagerly devour. These act as tritarents in the esophagus, and aid in the quicker dispersion of bile amongst the crude matters the fowls contain. Calcareous substances are required for the formation and excretion of the material composing the egg-shell. If deprived of the above-named substances, the birds pine away and die.

Editors' Table.

THE NEXT ANNUAL FAIR OF THE N. Y. STATE AGRICULTURAL SOCIETY.—At a late meeting of the Executive Committee of this society, the Secretary reported, that, since the last meeting previous, he had visited Syracuse, and that the citizens were taking active measures to prepare the grounds and buildings for the use of the society in September. A contract for enclosing the grounds, and preparing the necessary erections, has been made with an efficient and thorough business man; and everything required by the society, it is believed, will be in readiness. The Committee of Arrangements, in behalf of the citizens, are making every possible effort for the accommodation of visitors; and nothing, on their part, will be left undone to accommodate those who may be in attendance. The Secretary also reported, that the judges who had been appointed for the annual exhibition had, with very few exceptions, signified their acceptance, and the few vacancies had been supplied by gentlemen who had agreed to be present. At no former period have the indications of a large exhibition, in all the departments, been so encouraging as at the present.

SALE OF HEREFORD CATTLE AND MERINO SHEEP.—We desire to call particular attention to the advertisements in this number of our paper, of Messrs. Bingham & Brothers. We have seen the progenitors of their cattle and sheep, and know them to be first-rate animals of their kind. From their well-known intelligence, we have no doubt they have bred them with care, and we are of opinion the public may implicitly rely on their statements in regard to them.

POSTPONEMENT OF THE OHIO STATE FAIR.—In consequence of the prevailing epidemic, in Cincinnati and its vicinity, the Ohio State Agricultural Fair is postponed until another year.

HONORS TO AN AMERICAN, FROM ABROAD.—Dr. Charles T. Jackson, of Boston, has lately received the beautiful Cross of the Legion of Honor, conferred on him by the President of the French Republic, in consequence of his high scientific attainments, and for having made the discovery of etherization, a distinction, it is believed, that no other American ever received. Bonpland, the celebrated traveller and naturalist, and the associate of Baron Humboldt, in South-American travels, together with several other individuals of eminence, received the order of knighthood at the same time. Dr. J. has also received from the king of Sweden a splendid gold medal, as a testimony of the respect in which his character and scientific services are held by that monarch.

RAVAGES OF THE ARMY WORM.—We learn that the army worm is very destructive in the southern part of Illinois, as well as in Missouri.

DISINFECTING AGENT.—The best disinfecting agent is nitrate of lead. One ounce, dissolved in one pint of water, is equal in strength, as a disinfecting agent, to the same quantity of concentrated solution of chloride of lime. It is, at the same time, the cheapest that can be used. About a table-spoonful, poured into a chamber, will remove the smell instantaneously; a handkerchief or towel, saturated with it, and hung up in a room, will remove any unpleasant odor that may exist at any time.

MARCH OF MIND.—There is a farmer in this state, who, entertaining the opinion that iron plows "pizen" the earth, and injure crops, has cast them off, and procured the pod-auger pattern—all wood—and heavy as half a shedful of the ordinary run of farmers' tools. The same farmer, having an active young man in his service, who had acquired

some knowledge from books, peremptorily discharged him, because the young man stoutly persisted in asserting that the earth went round the sun, while the farmer held the contrary. He would not have folks with him whose heads were full of such nonsense.—*N. H. Statesman.*

FENCE POSTS.—A practical farmer informs the Hartford Times, that in taking up a fence that had been set fourteen years, he noticed that some of the posts remained nearly sound, while others were rotted off at the bottom. On looking for the cause, he found that those posts that were set limb part down, or inverted from the way they grew, were sound. Those that were set as they grew, were rotted off. This fact is worthy the attention of farmers.

GENERAL WASHINGTON'S FARM.—The farm of Gen. Washington, at Mount Vernon, contained ten thousand acres of land in one body, equal to about fifteen square miles. It was divided into farms of convenient size, at the distance of two, three, and five miles from his mansion house. These farms, he visited every day, in pleasant weather, and was constantly engaged in making experiments for the improvement of agriculture. Some idea of the extent of his farming operations may be formed from the following facts:—

In 1787, he had five hundred and eighty acres in grass; sowed six hundred bushels of oats; seven hundred acres with wheat, and as much more in corn, barley, potatoes, beans, peas, &c., and one hundred and fifty with turnips. His stock consisted of one hundred and forty horses, one hundred and twelve cows, two hundred and thirty-six working oxen, heifers, and steers, and five hundred sheep. He constantly employed two hundred and fifty hands, and kept twenty-four plows going during the whole year, when the earth and the state of the weather would permit. In 1786, he slaughtered one hundred and fifty hogs, for the use of his family, and provisions for his negroes, for whose comfort he had great regard.—*Exchange.*

A PORTRAIT OF AN ANTI-BOOK FARMER.—He plows three inches deep, lest he should turn up the poison that, in his estimation, lies below; his wheat land is plowed so as to keep as much water on it as possible; he sows two bushels to the acre and reaps ten, so that it takes a fifth of his crop to seed his ground; his corn land never had any help from him, but bears just what it pleases, which is from twenty to twenty-five bushels, by measurement, though he brags that it is fifty or sixty. His hogs, if not remarkable for fattening qualities, would beat old Eclipse at a quarter race; and were the man not prejudiced against deep plowing, his hogs would work the ground better with their prodigious snouts, than he does with his jack-knife plow. His meadow land yields half a ton to a whole ton of hay, which is regularly spoiled in curing, regularly left out for a month, regularly stacked up, and left for the cattle to pull out at their leisure, and half eaten and trampled under foot. His horses would excite the avarice of an anatomist in search of osteological specimens; and returning from their range of pasture, they are walking herbariums, bearing specimens in their mane and tail of every weed that bears a cockle or burr. But oh! the cows, if held up in a bright day to the sun, don't you think they would be semi-transparent? But he tells us good milkers are always poor! His cows get what providence sends them, and very little besides, except in winter; then they have half a peck of corn, the ears a foot long, thrown to them, and they afford lively spectacles of animated corn and cob crushers. Never mind, they yield, on an average, three quarts of milk per day, and that milk yields varieties of butter quite astonishing!—*Buffalo Paper*

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, JULY 18, 1849.

ASHES, Pots,.....per 100 lbs.	\$5 50	to	\$5 63
Pearls,.....do.	5 62	"	5 75
BALE ROPE,.....lb.	9	"	11
BARK, Quercitron,.....ton,	23 00	"	30 00
BEANS, White,.....bush.	75	"	1 25
BEE-SWAX, Am. Yellow,.....lb.	19	"	22
BOLT ROPE,.....do.	11	"	12
BONES, ground,.....bush.	40	"	55
BRISTLES, American,.....lb.	25	"	65
BUTTER, Table,.....do.	15	"	25
Shipping,.....do.	9	"	15
CANDLES, Mould, Tallow,.....do.	10	"	13
Sperm,.....do.	25	"	40
Stearic,.....do.	20	"	25
CHEESE,.....do.	5	"	10
COAL, Anthracite,.....2,000 lbs.	5 00	"	6 00
CORDAGE, American,.....lb.	11	"	13
COTTON,.....do.	6	"	10
COTTON BAGGING, Amer. hemp,.....yard,	15	"	16
FEATHERS,.....lb.	30	"	40
FLAX, American,.....do.	8	"	9
FLOUR, Northern, Southern and West'n bbl.	4 12	"	5 00
Fancy,.....do.	6 50	"	6 25
Richmond City Mills,.....do.	6 75	"	7 00
Buckwheat,.....do.	—	"	—
Rye,.....do.	3 00	"	3 06
GRAIN—Wheat, Western,.....bush.	1 05	"	1 30
Red and Mixed,.....do.	75	"	1 05
Rye,.....do.	56	"	57
Corn, Northern,.....do.	58	"	60
Southern,.....do.	65	"	59
Barley,.....do.	52	"	55
Oats,.....do.	23	"	40
GUANO, Peruvian,.....2,000 lbs.	47 00	"	50 00
Patagonian,.....do.	30 00	"	35 00
HAY, in bales,.....do.	35	"	45
HEMP, Russia, clean,.....ton.	210 00	"	220 00
American, water-rotted,.....do.	160 00	"	220 00
American, dew-rotted,.....do.	140 00	"	200 00
HIDES, Dry Southern,.....do.	8	"	9
HOPS,.....lb.	4	"	12
HORNS,.....100.	2 00	"	10 00
LEAD, pig,.....do.	4 60	"	4 63
Pipes for Pumps, &c.....lb.	5	"	7
MEAL, Corn,.....bbl.	2 94	"	3 12
Corn,.....bhd.	13 75	"	14 00
MOLASSES, New Orleans,.....gal.	16	"	26
MUSTARD, American,.....lb.	16	"	31
NAVAL STORES—Tar,.....bbl.	1 75	"	2 00
Pitch,.....do.	1 25	"	1 75
Rosin,.....do.	80	"	95
Turpentine,.....do.	2 31	"	2 62
Spirits Turpentine, Southern,.....gal.	32	"	33
OIL, Linseed, American,.....do.	53	"	60
Castor,.....do.	1 50	"	1 60
Lard,.....do.	60	"	70
OIL CAKE,.....100 lbs.	1 00	"	1 50
PEAS, Field,.....bush.	75	"	1 25
Black-eyed,.....do.	1 50	"	1 75
PLASTER OF PARIS,.....ton.	2 00	"	2 75
Ground, in bbls.,.....of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,.....bbl.	9 00	"	13 50
Prime,.....do.	5 00	"	8 50
Smoked,.....lb.	6	"	12
Rounds, in pickle,.....do.	4	"	6
Pork, Mess,.....bbl.	10 00	"	13 00
Prime,.....do.	7 00	"	10 50
Lard,.....lb.	6	"	7½
Bacon sides, Smoked,.....do.	3	"	4½
In pickle,.....do.	3	"	4
Hams, Smoked,.....do.	5	"	9
Pickled,.....do.	4	"	7
Shoulders, Smoked,.....do.	4	"	5
Pickled,.....do.	3	"	4
RICE,.....100 lbs.	2 88	"	3 62
SALT,.....sack.	1 17	"	1 30
Common,.....bush.	20	"	35
SEEDS—Clover,.....lb.	5½	"	7
Timothy,.....bush.	2 00	"	3 50
Flax, clean,.....do.	1 30	"	1 40
rough,.....do.	1 20	"	1 30
SODA, Ash, cont'g 80 per cent. soda,.....lb.	3	"	—
Sulphate Soda, ground,.....do.	1	"	—
SUGAR, New Orleans,.....do.	4	"	6
SUMAC, American,.....ton,	35 00	"	37 00
TALLOW,.....lb.	7	"	8
TOBACCO,.....do.	3	"	8
WHISKEY, American,.....gal.	23	"	25
WOOLS, Saxony,.....lb.	25	"	60
Merino,.....do.	25	"	35
Half blood,.....do.	20	"	25
Common do.....do.	18	"	20

NEW-YORK CATTLE MARKET.

At Market.—1,150 Beef Cattle, (1,300 southern, the remainder from this state and east); 65 Cows and Calves, and 4,500 Sheep and Lambs.

Beef Cattle.—The market for Beeves has been rather dull, as the prices show a decline, when compared with our last. Sales of good retailing qualities at from \$6 to \$7.75 per hundred. The number of head on hand, unsold, is estimated at 1,500.

Cows and Calves.—These vary from \$20 to \$45. Unsold, 15
Sheep and Lambs.—Sheep sold at \$1.50 cents to \$4.50 each; Lambs at \$1 to \$3.75. The number left unsold, 50.

REMARKS.—Prices have scarcely altered since our last. Large quantities of produce continue to be shipped abroad. It is said that Great Britain and Ireland are taking even more of us now than during the year 1847. We observe that the importations of grain into the United Kingdom have averaged about four and a half millions of bushels per month, since the first of January last.

Crops.—With the exception of Indiana, and a few other sections, the wheat crop proves more than an average. Rye is remarkably good; Hay, an unusually large crop; Barley and Oats promise well. The Root crops are suffering from the drought, in many parts of the country. Corn will be a great crop in the south; at the north it is too early yet to speak of it. Cotton is more promising than was expected, though the terrible late frosts were very destructive. Sugar, Rice, and Tobacco look well.

The Cholera still prevails to an alarming extent, in all parts of the country open to foreign immigration. Its principal destruction is among the poorer class of immigrants. The native population is suffering but very little. It is hoped, ere another month has closed, it will nearly subside.

TO CORRESPONDENTS.—Communications have been received from A. L. Elwyn, W. D., Thomas S. W. Mott, R. W. Thompson, Thomas Ewbank, J. M. de la Torre, J. McKinstry, S. Boyd, and Reviewer.

ACKNOWLEDGEMENTS.—Annual Report of the Seneca County, (N. Y.) Agricultural Society, for the year 1848; The Water-Cure Journal, from Fowlers and Wells; and an Agricultural Circular from the Commissioner of Patents. Also, a Box of Poudrette, from Dr. S. Boyd, of Brooklyn, as prepared by Samuel Maynard, by means of Le Doyen's Disinfecting Fluid.

VIRGINIA LANDS.

THE attention of Northern Farmers who wish to purchase in Fairfax County, Va., is invited particularly to two farms for sale, three miles east from Fairfax Court House, thirteen from Alexandria, and fourteen from the city of Washington. There are no buildings on either tract, but, by following the custom of the country, comfortable and temporary ones can be cheaply built. The soil is well adapted to farming purposes, and there is timber on them, near two sawmills.

These farms would sell in the north, for from \$50 to \$100 per acre, and can be bought here in a more pleasant and healthy climate, one for eight, the other for ten dollars per acre, on easy terms, and a good title given.

Further information given, if requested, by T. R. Love, trustee, either personally, or by letter, (postage paid,) directed to Fairfax Court House, Va.

H. FULLER.

STATIONERY, BLANK BOOKS, AND PAPER.

Francis & Loutrel, No. 77 Maiden Lane, N. Y.

MANUFACTURE all kinds of Blank Books and Stationery articles—Diamond Point Gold Pens—Letter Copying Presses—Manifold Letter Writers—superior Croton Ink, warranted to retain its jet-black color, which they sell at the very lowest prices.

We have also on hand every description of Foreign PAPER and STATIONERY—Cap, Letter, and Note Papers, Envelopes, Perforated Board, Bristol Board, Drawing Papers—Copy Books, Pocket Books, Card Cases, Port Folios, Scrap Books—Gold Paper, Tissue Paper—Chess Men, Backgammon Boards—Wax, Wafers, Slates, Pencils—Gold and Silver Pencil Cases—Writing Desks—Work Boxes—Quills—Tin Cash and Deed Boxes—and all articles kept by Stationers, at remarkably low prices.

Books suitable for County Clerks and Public Offices supplied.

Printing, Ruling, and Binding executed at the lowest rates.

We should be pleased to have a call from those requiring articles in our line. Orders by mail will receive attention.

LEWIS FRANCIS, FRANCIS & LOUTREL, N. Y.

CYRUS H. LOUTREL, Stationers, 77 Maiden Lane, N. Y.

Sept. 1yr.

AYRSHIRE HEIFERS.

WANTED by the last of October next, two Ayrshire Heifers, from six to eight months old. They must be from approved milking families. Please to state price, delivered in this city.

By 31 SAMUEL ALLEN, 189 & 191 Water st., N. Y.

COMMERCIAL GARDEN AND NURSERY.

PARSONS & CO., at Flushing, near New York. The proprietors of this establishment invite public attention to their large assortment of every desirable variety of Fruit and Ornamental Tree or Shrub. Their importations of everything new in Europe are annually continued, and they offer a very large variety of Ornamental Trees and Shrubs imported expressly for arboretums and pleasure grounds. Their collection of Roses is annually enriched by novelties from abroad, many of which may be found described in their new work on the Rose, recently published. Fruit Trees receive their particular attention, and are propagated under their personal supervision; this care, with their possession of extensive specimen grounds, in which is tested every variety of fruit they cultivate, enables them confidently to guarantee the genuineness of the varieties.

Their care in pruning and cultivation enables them also to send out thrifty and well-formed trees. From their large scale of propagation, they can offer to dealers very liberal discounts, where hundreds or thousands are taken. Orders or inquiries can be addressed to the proprietors at Flushing, near New York, where catalogues will also be furnished. They have established a Branch at Brighton Depot near Boston and by the entire success of their trees transplanted thither have thoroughly proved the superior adaptation of Long-Island Trees to the soil and climate of any part of New England. This they attribute to the perfect maturity attained by the wood before frost, which renders the trees suitable for transportation to any latitude.

At the season of transplanting, a salesman will be at their Brighton Branch to furnish those who may prefer obtaining their supply thence.

NEW-OXFORDSHIRE LONG-WOOLLED BUCKS.

FOR SALE, 30 or 40 bucks of this well-known flock, at any time gentlemen may please to call, as the subscriber has determined not to hold another annual sale. To those unacquainted with the quality of these sheep, it may be necessary to remark that they will shear from 9 to 14 pounds of washed wool, and when full fatted, weigh 300 pounds, and that they are bred from some of the best long-wool sheep ever imported, which were selected by the subscriber from an English prize flock.

CLAYTON B. REYBOLD,
Delaware City.

VIRGINIA FARM

FOR SALE, within 16 miles of Richmond West, on James River, known as "Claremont," and containing 253 acres more or less. The James-River and Kanawha Canal runs through the property. The selection is one of the most lovely and pleasant on the river, commanding a splendid view of the surrounding country. The land is mostly yellow clay bottom and well adapted to wheat, Indian corn, Irish potatoes, and oats. There is a fine orchard of apples, pears, cherries, and peaches. The buildings are mostly new. The dwelling has about ten rooms all newly done up in first-rate style, good water all about the premises. The canal boats passing every hour, offer a cheap conveyance for all kinds of produce. There are two churches, a school, a tavern, physician, and Post Office all near. And there is a market on the border of the farm for all meats, vegetables, eggs, butter, &c. It also affords a fine stand for a country store, a crop now on the place. Terms easy. Apply, post paid, to

B. B. ALLEN, 19 Platt st., N. Y.

PATENT FANNING MILLS AND GRAIN CRADLES.

GRANT'S celebrated Fanning Mills and Grain Cradles have been awarded six first premiums at the New-York State Fairs; also, at the American Institute of New York and several County Fairs. Wherever exhibited, they have taken the first premium over all other mills. The great encouragement we have received from dealers and agriculturists has induced us to enlarge our business. All orders will receive prompt attention.

J. T. GRANT & CO.,
Juncton P. O. Rens. Co., N. Y., 8 miles north of Troy.
The above mills are also for sale by A. B. ALLEN & CO.,
189 & 191 Water street, New York.

ALLEN'S FARM BOOK.

SEVENTH EDITION; Enlarged.

THE AMERICAN FARM BOOK, or compend of American Agriculture; being a practical treatise on soils, manures, draining, irrigation, grasses, grain, roots, fruits, cotton, tobacco, sugar cane, rice, and every staple product of the United States, with the best methods of planting, cultivating, and preparation for market. Illustrated by more than 100 engravings. By R. L. Allen, author of Diseases of "Domestic Animals," and editor of the "American Agriculturist;" together with Browne's Memoir on Indian Corn, including Barlow's celebrated Poem. Published and for sale by

C. M. SAXTON, 121 Fulton st., N. Y.

SALE OF HEREFORD CATTLE.

THE MESSRS. BINGHAM, of Vermont, brothers, propose to sell at public auction, on the show-ground of the New-York State Fair, at Syracuse, from 10 to 20 head of Hereford cattle, 3 years old and under—bulls and heifers. Our cattle were purchased of Messrs. Corning and Sotham, three years ago. We have been disposed to give these cattle a fair trial, to see what their merits would prove to be, before offering them to the public. We have come to the conclusion, that no race of cattle can compete with them, when all their good qualities are taken into consideration. We are resolved to push ahead in the cultivation of the Herefords, as being a race affording most profit for keep and care, and proving themselves first-class cattle for all the purposes of the breeder. They make a noble cross with the shorthorns, as well as with the native stock, showing a great and decided improvement. We offer these cattle to the public, under the strong conviction that they will prove a valuable acquisition to any herd.

PURE-BRED MERINO SHEEP.

WE shall also offer, at private sale, a large lot of pure-bred Merino sheep, from imported sires. The breeders of sheep will do well to look over our flocks before purchasing elsewhere. We sell no grades, or mongrels—worthless sheep—for great prices; but we mean to deal fairly with those who purchase of us, and sell them our best blood for fair remunerating prices; so that our sheep shall prove a decided improvement to the flocks with which they may be placed.

L. G. BINGHAM & BROTHERS,
Williston, Vt.

FARM FOR SALE.

THE Dairy Farm of 200 acres, belonging to David S. Mills, at Newtown, L. I., upon which he now resides, is offered for sale—the whole, or in parcels. The well-known reputation of the above farm furnishes fully its character and advantages, it being second to none in the Union; also, the entire stock, &c., belonging to the same. For terms, apply to David S. Mills, on the premises, 5 miles from Williamsburgh, Ferry, on Jamaica turnpike road, or to H. Meigs, American Institute, N. Y.

CHINESE PIGS.

THE Subscriber has for sale, at the foot of 79th street, East River, a few Chinese pigs, raised from stock imported per ship Zumchi, Captain Canfield, from Canton, in April 1848, and selected for the purpose of improving the stock in this country.

WILLIAM CAIRNS.

HORSE POWERS.

THE Subscribers have a great variety of the best Horse Powers constantly on hand for sale, which are adapted to every purpose.

The rim, or taplins, 18 to 20 feet diameter, to work with from one to six horses, wrought-iron cogs, with steel pinions, and all of wrought iron and wood.

The endless-chain, inclined-plane, or railroad power, compact and efficient to work with either one or two horses. The Bogardus iron, one to four horse power. See cut and description, page 209 of the present volume.

Warren's iron, for one or two horse power.

Trimble's do., for two and four horses.

A. B. ALLEN & CO.,

189 & 191 Water street, New York.

PERUVIAN GUANO.

The undersigned has made arrangements with A. B. Allen & Co., of New York, by which he is enabled to offer unusual facilities to farmers who may wish to obtain a supply of guano for the next crop of wheat. It will be delivered either at Richmond or Petersburg, and furnished at the lowest prices at which it can be afforded. The high reputation of those gentlemen is a sufficient guarantee that none but the best article will be sent from their house. All inquiries will be promptly responded to.

THOS. S. PLEASANTS,
Petersburg, Va.

A HISTORY OF WONDERFUL INVENTIONS.

ILLUSTRATED WITH NUMEROUS ENGRAVINGS ON WOOD.

Price, 75 cents.

"THIS is a capital book, capably illustrated by wood cuts. The compass, gunpowder, gun cotton, printing, gas, steam, electricity, time and weather gauges, and all the other most remarkable elements which guide and rule the world, in our age, are well explained and described."—*London Literary Gazette*.

HARPER AND BROTHERS,
82 Cliff street, N. Y.

PERUVIAN GUANO

FOR Sale, at Bating Hollow, Long Island, by
AZEL DOWNS,

WHEELER'S PATENT IMPROVED PORTABLE RAIL ROAD HORSE POWER AND OVERSHOT THRASHER AND SEPARATOR.

THE advantages of the above horse powers are—1. They occupy but little more space than a single horse. 2. They can be moved by the weight of the horse only, by placing them at an angle of 10 or 15 degrees. 3. They are comparatively light and portable, and can be easily transported. 4. They are simply constructed, not liable to get out of order, and move with little friction, the revolving plane gearing without any complex or intermediate wheels, directly into the pinion upon the shaft on which the pulley belt runs.

The *Thrashers* consist of a small spiked cylinder with a concave plane over it, and a level feeding table. There are several improvements in the overshot thrashers. 1. They admit of a level table for feeding, thus enabling the tenders to stand erect, and control the motion of the horse and machine by means of a brake, by which accidents are avoided. 2. In consequence of the spikes lifting the straw and doing the work on the top, heavy substances such as stones, blocks &c., drop at the end of the table, and are not carried between the spikes, by which they and the machine are broken. 3. The overshot cylinder does not scatter the grain but throws it within three feet of the machine. 4. This arrangement also admits of attaching a *separator* high enough from the floor or ground to allow all the grain to fall through it, while the straw is deposited by itself in the best condition for binding. 5. Neither grain nor straw are broken by this machine. 6. The cylinder is longer, which admits of faster and more advantageous feeding; it is smaller and with fewer teeth than ordinary thrashers, thus admitting of more rapid motion and faster work with less power; and the diminution of teeth in the cylinder is fully made up by those in the concave, which is stationary. 7. The separator is a great advantage in diminishing the labor of raking out the straw, as it leaves the grain in the best condition for the fanning mill. Three men, with a single power, can thresh 75 to 100 bushels of wheat or rye; or four men with a double power, 175 to 225 bushels of wheat or rye, or double that quantity of oats or buckwheat, per day. All the above are compact and can be carried where wanted complete, or they may be readily taken apart and packed for distant transportation by a wagon or otherwise.

Price of single Power,	\$80
" " Thrasher,	\$28
" Separator and fixtures,	\$7
" Bands for driving, etc.,	\$5
" Sawmill, complete, and in running order,	\$35

The price of the double power, thrasher, separator, &c., complete, is \$145, including rights of using. The above are sold singly or together as desired.

The above power is warranted to work well and give satisfaction.

Among the large number who have purchased the above-named horse powers of us, we would enumerate the following:

E. H. Haight	New-York City.
Edward Dunn	" " "
A. C. Munson	" " "
T. C. Winthrop	" " "
Wm. S. McCoun	" " "
Thos. F. Young	" " "
G. I. Slocum	Cohoes, N. Y.
P. P. Swartwout	Port Jarvis, N. Y.
J. H. Anderson	White Plains, N. Y.
D. B. Campbell	Schenectady, N. Y.
S. S. Howland	Dobb's Ferry, N. Y.
James Wilson	Port Chester, N. Y.
L. Onderdonk	West Chester, N. Y.
Lawrence Davenport	New Rochelle, N. Y.
G. Butler	Fordham, N. Y.
Thos. W. Carpenter	Harrison, N. Y.
A. Gregory	Liberty, Sullivan Co.
N. A. Topping	Phillips Port, Sul. Co.
Wm. Silliman	Tuckahoe
Samuel Decker	Staten Island.
David Brown,	" " "
Mr. Taylor Perrine	" " "
Mr. Barton	" " "
James M. Cross	" " "
C. Cox	" " "
J. C. Garretson, 2 sets of Horse Powers	" " "
Mr. Guion	" " "
Mr. Parkerson	" " "
D. Latourette	" " "
C. Mc Lean	" " "
D. L. Clawson	" " "
James M. Brush	Huntington, L. I.
Thos. P. Craven	Boundbrook, N. J.
John Burke	" " "
E. Merrill	Belville, N. J.
Mr. Maynard	N. Brunswick, N. J.
R. A. S. Johnson	" " "
Henry Talcott	Hartford, Ct.
R. S. Griswold	Lyno, Ct.
N. B. Weed	Darien, Ct.
Lewis Raymond	Lewisboro, Ct.

A. B. ALLEN & CO., 189 and 191 Water street.

FITZGERALD'S PATENT FLOUR AND GRAIN MILLS.

BEING appointed sole agents, in this city, for the above excellent and economical mills, the subscribers offer them for sale at the manufacturer's prices.

CORNSHELLERS.

HAND and horse-power cornshellers of the various kinds, made in a superior manner.

FANNING-MILLS.

GRANT'S Patent and several other kinds of Fanning-mills, suitable for cleaning rice as well as grain.

RICE HULLERS.

THE different sizes of rice hullers, with recent improvements, manufactured expressly for us.

WHEAT.

THE celebrated white-flint, and other improved varieties of wheat, suitable for fall sowing.

RYE.

THE best kinds of winter rye.

TIMOTHY SEED.

A PRIME article constantly on hand.

TURNIP SEED.

ABERDEEN Yellow, Purple Top, Globe, White-flat, and other varieties of turnip seed. Warranted fresh and pure.
A. B. ALLEN & CO.,
189 & 191 Water street, N. Y.

PERUVIAN GUANO.

JUST arrived, fresh from the Chinche Islands, 730 tons first quality Peruvian Guano. Six years of experience in the use of this guano by our farmers in the states, bordering the Atlantic Coast, has proved it far superior to any other, and the cheapest manure that they can purchase. It is particularly valuable for wheat and other winter grain, grass, and in fact all the crops grown.
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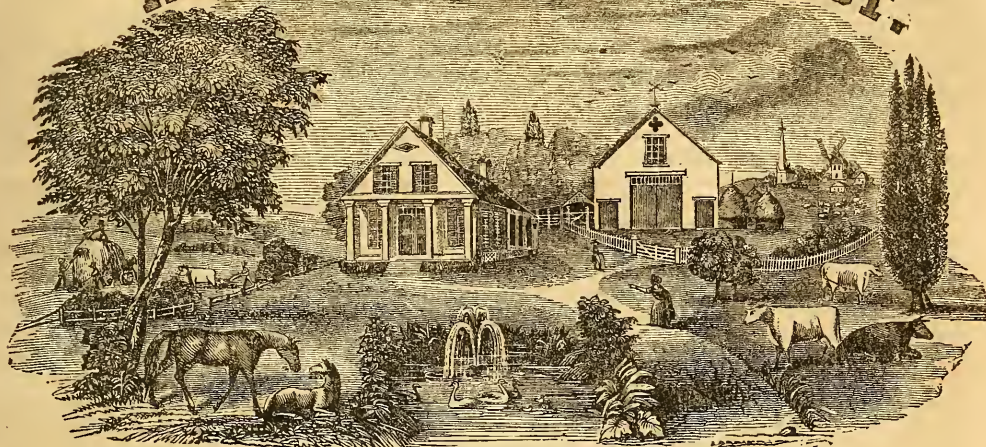
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AMERICAN AGRICULTURIST.



Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

VOL. VIII. NEW YORK, SEPTEMBER, 1849. NO. IX.

MESSRS. ALLEN, EDITORS.

C. M. SAXTON, Publisher, 121 Fulton Street.

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The following is an extract from the law of the United States on the subject of postage as applicable to this periodical:—

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TO POSTMASTERS AND OTHERS.

UPON an examination at this office of the May number of the "American Agriculturist," printed in New York, at 121 Fulton street, it is decided, under the approval of the Postmaster General, that said publication is a newspaper, within the intent and meaning of the 2d and 16th sections of the Post-office act of Congress, of 3d March, 1845, being in its superficial dimensions not more than 1,900 square inches, and "conveying intelligence of passing events" in that department of the affairs and business of society to which the publication is devoted.

S. R. HOBBIE,

First Dpt. P. M. Gen'l.

Post-Office Department, Contract }
Office, May 28th, 1849. }

WORK FOR SEPTEMBER, NORTH AND WEST.

General Remarks.—Any portion of the work omitted to be done in August, or impracticable to be performed from the state of the climate, as recommended in our last number, may be accomplished this month, such as *sowing winter rye or wheat, destroying weeds, composting manure, draining wet lands, sowing turnips, &c., &c.*

Selection of Seed Corn.—This month, seed corn should be selected. It can only be well done in the field, by gathering those ears with small butt-ends, the second ripe, and taken from stalks which have two or more well-filled ears to each. In this way, the best varieties of corn in cultivation have been obtained.

Threshing out Grain.—Continue to thresh your grain as fast as your business or circumstances will allow; for the sooner this is done, the greater the chance of destroying the eggs of the "weevil fly," which deposits them in the grain in its green and succulent state. "If wheat is threshed soon after

harvest, and thrown into bulk, it undergoes a heat, which destroys the egg, and it sustains no injury; but, if it remains long in the shock, or stack, the weevil hatches, and makes its way out of the grain."

Fumigating Granaries.—If your granary is infested with the "black weevil," clear it entirely of grain, place a pan of powdered sulphur in a bed of sand, close the windows, doors, and cracks, and set the sulphur on fire. And the smoke will either destroy or drive the weevils away.

Cutting and Stacking Corn.—Indian corn, which has been left untopped, should now be cut up by the roots and stacked. When thus secured, it is entirely beyond the effects of frost, and the stalks make much better fodder than when left exposed uncut.

Seeding Timothy.—If you have not already sown your Timothy, let it be done as early as possible this month, at the rate of twelve quarts of seed to the acre. Be sure that the seed is sound and fresh; and, as a protection to the infant plants, sow, also, at the same time, a peck of buckwheat to each acre of ground. Such meadows as have begun to fail, may be increased in their yield of hay, by sowing on them a peck of Timothy seed, with from five to ten bushels of wood ashes, and an equal quantity of lime per acre, afterwards harrowing and rolling it in.

Care and Management of Stock.—Every good farmer will provide enclosed yards or pastures for his stock, so that they cannot trespass upon his neighbors' nor his own fields. If they do not have access to sea water, nor salt springs, he will see that they are salted at least twice a week; or, what is better for cattle, horses, and sheep, is, to place lumps of rock salt in their pastures or sheds, for them to lick as often as their inclination may require. Salt, when given to animals in proper quantities, "gives energy to the stomach, strengthens the capacity of the digestive organs, increases the appetite, and, as a resulting consequence, improves their general health and condition."

Keep a watchful eye over all your domestic animals, and see that they are not diseased. If they have a full and frequent pulse, a loss of appetite, a dejected head, and a languid, or watery eye, with a disposition to lie down in a dark or shady place, or, if the hide adheres closely to the ribs, and the hair stands on end, depend upon it, they are ill, and require the immediate attention of the doctor, or veterinarian.

All animals intended to be fattened, should now be pushed to the extent of your means. Much more flesh can be put on them with the same quantity of feed, between the middle of this month and the end of November, than in a similar length of time, when the weather is cold. Indeed, so important is the difference, that it would be judicious for every man to reserve grain enough from his last year's store, to feed his cattle, sheep, and swine, till the coming in of his new crops.

Hemp and Tobacco.—Finish harvesting and securing your crops of hemp and tobacco, if not previously done.

Kitchen Garden.—Hoe and thin out the turnip crops. About the 15th, sow cabbage, cauliflower, broccoli, and carrots, to remain protected in the seed beds during winter, for early transplanting in the

spring. Gather garden and flower seeds as they ripen, if not done before, and carefully put them away in a cool dry place, secure from the depredation of vermin.

Fruit Garden and Orchard.—Budding of peach trees may be performed in the early part of the month; also that of other trees, so long as the bark will peel. Peach, plum, apricot, and all northern trees bearing stone fruits, may be pruned while the sap is in downward motion. Strawberries may now be planted in beds.

Flower Garden and Pleasure Grounds.—Toward the close of this month, beds may be prepared for planting tulips, hyacinths, anemonies, and other flower roots and shrubs that are to be removed the next. Trees and shrubs may be propagated by cuttings and layers. Pines, maples, and nut trees may now be pruned.

WORK FOR SEPTEMBER, SOUTH.

General Remarks.—Several of the hints given for the Work for August, South, will also be suitable for this month, as *picking cotton, harvesting tobacco, rice, &c., &c.*

Harvesting Cotton.—This is commenced when the bolls have begun to expand, and the cotton is protruded. It is continued as the bolls successively ripen and burst their capsules. It is done entirely by hand, the picker passing between two rows and gleaning from each. The cotton is placed in a bag capable of containing fifteen or twenty pounds, which is hung upon his shoulders or strapped upon his breast. These are emptied into large baskets which are taken, when filled, to the gin house. On low grounds, especially, much loss is incurred in some seasons from the want of the sun to cause an expansion of the fibre within the boll, so as to cause it to open. The boll is composed of five divisions, in each of which there is a parcel of cotton wool surrounding each seed, there being several in each lock of cotton. When green, these fibres lie close to the seed, and as it ripens, the fibres become elastic, the boll becoming hard and brownish. The Sea-Island has only three divisions, as also the Egyptian, which is only the Sea-Island of the best variety, with black seed, smooth, and a yellowish tuft of fibres on the small end.

There is a peculiar art in gathering the cotton from the boll, which can only be acquired by practice; many gather equally fast with either hand. The left hand seizes the stem near the open boll, or the boll between the two middle fingers, the palm of the hand up; the fingers of the right hand are inserted tolerably low down in the boll, a finger on each lock of cotton; then, as the fingers grasp it, there is a slight twisting motion, and a quick pull, which, if done well, will extract the contents.

Cotton should be gathered from the field as clean as possible, taken to the scaffolds and dried until the seed will crack when pressed between the teeth, not crush, or mash, but crack with some noise. It should be frequently turned over and stirred, and all the trash and rotten pods taken out, while this is done, to insure its drying earlier.

If seeds are wanted for planting, gin the cotton immediately, and spread the seed over the floor

some five inches thick, until perfectly dry. If the cotton seed be not wanted, pack the seed cotton away in the house, to remain until a gentle heat is discovered, or until sufficient for ginning. After it has become heated, until there is a sensible feeling of warmth to the hand, and it looks as if pressed together, open and scatter to cool. This cotton will gin faster, have a softer feel, is not so brittle, therefore not so liable to break by rapidity of gin, and has a creamy color; the wool has imbibed a part of the oil that has exuded by the warmth of seed, and is in fact restored to the original color.

Sowing Oats, Wheat, and Rye.—About the last of this month, or early part of October, sow your oats, wheat, and rye. Grass seed may also be sown this month, as well as the next.

Kitchen Garden.—Sow beets, carrots, parsneps, parsley, celery, chervil, broad-leaved endive, garlic, lettuce, large northern cabbages, roquet, shalots, cress, mustard, spinach, Windsor beans, lentils, and radishes (round and long.) Transplant celery, artichokes, sorrel, and split onions. Large carrots may be planted for seed, if not previously done. Save pumpkins and squashes for winter use.

Fruit Garden, Shrubby, &c.—Finish budding and planting out monthly roses. Sow hardy flower seeds. Prepare beds of hyacinths and other bulbs. Water your plants as you set them out.

ANALYSES OF SOILS.

We insert below, as furnished us by Dr. Antisell, Chemist to the American Agricultural Association, the analyses of two samples of soil from the farm of Richard Peters Esq., of Atlanta, Georgia.

The constitution of 1,000 parts of the surface soil consisted of

Moisture,	195.7
Vegetable matter,	73.9
White silicious sand,	630.0
Alumina and protoxide of iron,	94.8
Carbonate of lime,	1.2
Magnesia,	0.3
Saline substances, soluble in water, as chloride of sodium,	2.1
Gypsum, and lime with organic acid,	2.0
Potash and phosphoric acid,	Traces.
	<hr/>
	1,000.0

Deficiencies—lime and potash.

The ingredients of 1,000 parts of the subsoil was as follows:—

Moisture,	165.7
Vegetable matter,	Trace.
Quartz, and particles of fine sand,	740.0
Alumina and peroxide of iron,	80.0
Carbonate of lime,	2.0
Magnesia,	5.3
Common salt,	5.5
Sulphate of lime, and potash,	1.5
Lime,	Trace.
	<hr/>
	1,000.0

The surface soil was of a friable texture, and had a dark color. It was of the same geological formation as the subsoil, from which it differed only in the greater quantity of vegetable matter, a lesser quantity of soluble salts, and the condition of its iron, which, owing to moisture and vegetation, had been preserved in a state of protoxide; while, in the subsoil, it was in a peroxide.

Exposure of a soil to the air will fully oxidate its iron, which is essential to be done in order to produce good crops. This action will be hastened by liming, which the land the samples in question were taken from requires. It may be best applied in the shape of marl or compost, as the ground does not absolutely require lime in a caustic state. If a compost be used, bones might enter into its composition, which also contain a large proportion of phosphoric acid. Twenty bushels of ground bones to the acre would suffice for a good grain or turnip crop, and for the deficiency of potash salts, twelve bushels of unleached wood ashes would be all that is required to make a fertile soil.

THE NEXT SHOW AND FAIR OF THE NEW-YORK STATE AGRICULTURAL SOCIETY.

We would remind our readers that the Show and Fair of this society will come off at Syracuse, on Tuesday, Wednesday, and Thursday, the 11th, 12th, and 13th of the present month. Col. Voorhies, the contractor, is at work with an efficient force in making the erections, and everything required for the use and convenience of the occasion, which will be in readiness previous to the time of meeting. The citizens of Syracuse, also, are preparing for the reception of visitors, and every accommodation that the city can supply, both public and private, will be open for the entertainment of those in attendance at the show.

Among the guests expected to be present, may be mentioned the President and Vice President of the United States, the Governors of several states, Ex-President Van Buren, Hon. Henry Clay, and numerous other distinguished personages of this country, as well as from abroad. The annual address of the society will be delivered by Professor James F. W. Johnson, of England, who has lately arrived by special appointment. Thus, the assurances are such, as to render it probable that the coming show will be one of the most extensive, both in point of visitors and objects of exhibition, ever witnessed in the United States. The premiums offered are liberal, amounting, as some have estimated, to six or seven thousand dollars.

The railroad companies in the state of New York offer unusual facilities to persons attending the fair, and for the transportation of animals and other articles for exhibition.

NORTH-AMERICAN POMOLOGICAL CONVENTION.

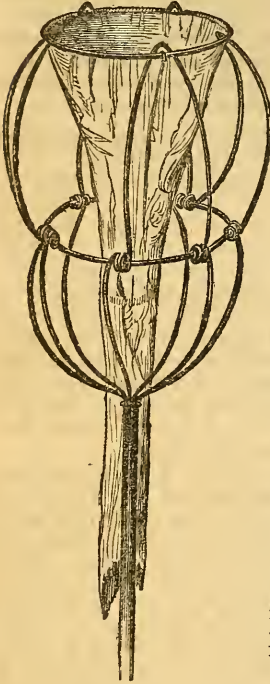
The Horticultural Society of Syracuse have made arrangements and suitable accommodation for the annual meeting of the North-American Pomological Convention, which is to be held, in connection with, and at the same place as the above, on Friday, the 14th of the present month.

Growers either of old or new varieties of fruit, are requested to send or bring specimens of the same, and communicate information of importance in relation thereto, directed to the care of P. N. Rust, Esq., of Syracuse, N. Y.

ONONDAGA SALT.—The activity in the salt manufacture has not been surpassed in any former year. The quantity manufactured since 1st January, is given by the Syracuse paper at 1,171,136.16 bushels, or an increase of 401,488.38 bushels over the previous year.

FRUIT GATHERER.

THIS instrument consists of a wire skeleton, with a moveable ring at the top, to which is attached a long stocking of sufficient diameter to admit the fruit and allow it to roll, or slide, into the hand or basket of the individual using it, as indicated by the adjoining cut. The skeleton is attached to a rod of convenient length by means of a screw.



FRUIT GATHERER.—FIG. 66.

valuable for gathering fruit, which cannot easily be reached by the hand. They are of various sizes costing from \$1.25 to \$2.50 each.

The operation of the instrument is as follows:—Hold the rod and basket in the left hand with the stocking in the right. Direct the ring to which the upper end of the stocking is attached, under each fruit intended to be gathered; push the implement with the left hand, so that the fruit may enter the stocking through the ring; then, by a sudden jerk of the stocking, with the right hand, and drawing the pole downwards at about the same time, with the right hand, the fruit will become detached from the bough, and roll, or fall, through the stocking into the basket, without being injured or bruised.

An implement of this kind will be found particularly

REVIEW OF THE JUNE NUMBER OF THE AGRICULTURIST.

Points to be Considered in the Choice and Erection of Lightning Rods.—It is doubted by a great many persons whether a lightning rod ever saved a building. Who knows? That nine tenths of them are totally inefficient, I have not the least doubt. I know that green trees planted near a building are good conductors. [Provided they extend a certain height above the top of the house.—Eds.] If an iron rod is not painted, or varnished, it will become rusty, and according to this article, lose its conducting power. If all the theories of this writer are true, there is not one lightning rod in a hundred that is worth a farthing as a protector, and the sooner they are pulled down and applied to some useful purpose the better.

Rough Notes by the Way, No. 8.—I wish every farmer and all his neighbors, would read Mr. Allen's description of how an "ignorant city gentleman," as I have no doubt he was called, set out his fruit trees. He did not merely stick them in a hole in the ground and then trust to luck to make

them grow. No; he was a "book farmer," and studied into the science of transplanting. I have no doubt but he is laughed at by his neighbors for "wasting his money" in reclaiming his wet lands by underdraining. For such is the disposition of the great mass of American farmers. They will not improve themselves nor let anybody else, if they can prevent them by ridicule. The world cannot present another so strange an anomaly as may be found among farmers—these active, keen, well-informed men upon general subjects, and nearly all of them readers; yet, one half of them positively will not read any work relating to the improvement of the soil, but seem disposed to ridicule every one that pretends to practise, or even think, that there is a better way than that practised by their fathers a hundred years ago. Almost the only point upon which downright, obstinate stupidity can be found to exist among the American people, is upon the subject of improvement of the soil upon the principles of science, as discovered and applied in the present age.

Adulteration of Food, No. 12.—I again commend these excellent articles. But is wine properly ranked among articles of food? If it is, the ingredients of which it is usually made, are anything but wholesome. Yet, thousands will buy such vile concoctions as are here described, sooner than drink the pure juice of American grapes.

On Breeding, No. 1.—That our native breed of cattle might be greatly improved, is beyond doubt. But they never will be while the fashion prevails of letting them run at large through the commons and highways. One of the secrets of the improvement, both in cattle and hogs, in the New-England states, is greatly owing to the abolishing of this system—this peculiar American system of turning all cattle out upon the highways to herd and breed together, as best they may. Only persuade the people to have laws that every man shall fence in his own cattle, and they will soon begin to look about them to see if they cannot have a breed that will give more profit from a less number than they now get from a large herd of street runts.

Cultivation of the Cranberry.—But if this fruit will grow so well upon dry land, why is this direction necessary for wet land, unless indeed, it be where land is worth more than it is in most parts of the United States? It is true that many pond margins might be cultivated with cranberries, with little or no cost, and so might a thousand crooks and nooks, be planted with strawberries, raspberries, blackberries, currants, grapes, &c., &c.

Agricultural Tour, No. 6.—The enormous amount of saccharine produced from Mr. McCutcheon's place, without exhausting the soil, is sufficient proof that sugar cane will never exhaust that land, if it is properly cultivated; because the whole of the matter taken away from the cane, or that cannot be again returned to the land, is drawn from the atmosphere, and not the soil. This is the most interesting letter of the series yet published.

Raising Corn without Manure.—I commend this article of Mr. Baker's to the serious attention of a great many people. My opinion is, that the way he raised this large crop of corn without manure, is the true way of planting corn. Topdress the Timothy and make it just as rich as you like, and then

turn under the sod as deep as you can, and it will bring a better crop with less labor than any other mode. One of the great comforts of this mode of cultivation is, that you have but very few weeds, and but little grass among the corn, and the sod, rotting in the latter part of the season, makes grain instead of stalks. Notwithstanding the success of Mr. Baker, I presume that few of his neighbors will "go and do likewise," because he is a "book farmer."

English Mode of Making Butter.—I wish Dr. Wills would explain the use or advantage of putting the saltpetre in the milk pail. I do not think that the cows should be housed at night in this country during the hot weather of our summers. Some of the other directions are very good. A thermometer churn, however, where the hot water is put around, instead of in, the cream is much better.

Superiority of Brown Bread over White.—What is the use of preaching to a set of people dying with dyspepsia, in consequence of eating so much white fancy bread, when they might prolong their lives by changing their diet to brown bread? They won't do it. They would rather "eat and die."

The Effects of Bright Colors on Animals, the writer says is such as to provoke a bull almost to madness. Ah! And according to my way of thinking, it has almost driven the wearers to madness, for every comfort and in some cases virtue, health, and even life has been sacrificed to obtain these bright-colored garments. As to bright colors exciting a warlike spirit, I cannot say; but I am sure it sometimes excites a very wicked one, full of envy, covetousness, ill will, and foolishness.

Pork vs. Bacon, &c.—I would refer this writer to some of the back volumes of the *Agriculturist*, where he will find a true and particular account of all he wishes to know upon this subject in several experiments made in cutting up pork by one of your old correspondents, Mr. Robinson, of Indiana. It is a wonder that good stout thread, in hanks, cannot be made of cotton, as well as fine thread upon spools. And it is equally wonderful that the kind of cotton hose that "Querist" inquires for cannot be had. I make it a rule never to criticise the style of a correspondent, for if I did, I should say that the ideas of this writer are sadly jumbled up together.

Filtration Upwards.—That looks plain and reasonable. But the best filter for Croton water, or any other, where there is a strong head, is the diaphragm filter. Another excellent filter for household use, is a filtering stone. But the apparatus described in this article is certainly very neat and I have no doubt is very effectual. There is no use of drinking muddy water when it is so easily purified. I commend these filters to the attention of some of the dwellers upon the banks of the Mississippi, and all other muddy streams. It is scarce possible to drink such water without bringing on a diarrhœa, and this is the reason so many emigrants are now dying of cholera in the towns on the Mississippi and its tributaries. I look upon a voyage up any of these streams as the surest preparation an European emigrant could take to ensure his getting the cholera.

American Capons.—By reference, American ca-

pons must be something different from English ones. It seems by Mr. Colt's account, that it is "practice that makes perfect," in this business, as well as in some others. Caponising turkeys is something new. Can't you contrive to get me an invitation, also, to that "thanksgiving dinner?" If I find that turkey very nice, I will recommend others "to go and do likewise," the invitation to dinner included.

Green Sward for Root Crops.—My opinion is the same as in regard to corn. I fully believe that we should see our account in it, if we should grow a great many crops in the same manner we should see our product increased and labor decreased. And finally if we should read more and try to improve, instead of dragging along the same old path our fathers trod, without ever thinking whether it is right or wrong, we should improve more, live easier, and die better."

REVIEWER.

POTASH FOR AGRICULTURAL PURPOSES FROM GRANITE.

WE clip the following from an exchange paper, as containing valuable information for the agricultural public:—"A discovery has been made in Ireland, that the granite on an extent of 70 miles in Wexford, contains so large a proportion of potash, that the alkali can be extracted by a chemical process so as to become an article of commerce. It is estimated that there are 2,000 tons of potash, the produce of America, consumed annually in England and Scotland, the present cost of which is £40 per ton; and that, by working the granite of Dalkey, which extends inward to Sandyford, the same quantity could be extracted by means of the capital of £10,000, and sold at £20 per ton, yielding a revenue rate for the capitalists, and diffuse the blessings of employment among the people, and not only render it quite impossible for the Americans to compete with the Irish, but really push an Irish trade in potash into the American continent."

The process of extracting the potash from granite is not given; but we presume it is done by roasting, and then slaking, by pouring water upon it when hot. This will undoubtedly liberate the potash to such an extent, that all the alkali will be readily available for the food of plants; all that remains to be done is simply to throw it upon the land. The more expensive process of leaching and boiling, to extract the potash, which is required to prepare it for market, may be entirely avoided.

The component parts of granite are quartz, felspar, and mica. Sienite, which is often called granite, and is the material generally furnished from the quarries at Quincy, Mass., differs from the technical granite of geologists, in containing hornblende in place of mica; but being formed under similar circumstances, and frequently in the same beds or quarries with granite, it often passes, by imperceptible gradations, into a combination with considerable proportions of quartz and mica.

Pure quartz consists entirely of siliceous. Felspar varies essentially in its constituent parts, but frequently contains from 12 to 17 per cent. of potash, one to two per cent. of lime and soda, and about 18 per cent. of alumina. Mica contains from 4 to 8 per cent. of potash, and other alkalies, valua-

ble for agricultural purposes. Hornblende, also, varies materially in its composition, but contains from 12 to over 20 per cent. of lime, 10 to 20 of magnesia, &c. In their natural condition, unassisted by art, these fertilizing ingredients are given out slowly, though the felspar, when subject to moisture, is slightly decomposed by the rootlets of plants, which suck from them, as they do from bones that are buried in the soil, some of these ingredients essential to their own structure and vitality.

When science shall have advanced to a sufficient extent, to detect the mines of agricultural food which now lie unheeded in the soil, future generations will probably find in the barrenest sands, and such as are now deemed utterly worthless, stores of fertility, that need but the ingenuity of man to compel them to yield their hoarded wealth, and which, united to the elements of the atmosphere, will furnish the elements of life to countless myriads of the human race.

AGRICULTURAL SCIENCE IN COLLEGES.

WE notice, with no little pleasure, the gradual, but certain advancement which the practical sciences are making in our time-honored seats of learning. Yale College, at New Haven, has already an endowed and thoroughly-established professorship, which is ably filled by Professor J. P. Norton. Amherst College, in Massachusetts, has a practical farmer and geologist in its accomplished President Hitchcock; and it has a regular course of lectures annually on agricultural chemistry, by Professor Shepherd. Other respectable institutions are following in the same commendable track.

We are happy to add that the Trustees and Faculty of Union College, in Schenectady, N. Y., under its zealous and enlightened President, Rev. Dr. Nott, has taken the initiatory steps by the adoption of the following resolution:—"Such a change is contemplated in the course of studies in Union College as to comprehend the more useful applications of science to the arts, such as civil and mechanical engineering, agriculture, agricultural and manufacturing chemistry, &c., and also French and other modern languages. Most of these subjects have heretofore been taught to a greater or less extent; but such a change in the statutes is now contemplated, as to allow applicants the privilege of pursuing such branches of study, and *such only*, as they may desire to pursue; and to give to each student such a diploma as will express his actual attainments.

"The scheme embraces a professorship of moral philosophy and rhetoric; of ancient languages and literature; of mathematics, pure and applied; of natural philosophy, practical and theoretical; of natural history and chemistry; of French and other modern languages and literature; of agricultural chemistry, and chemistry applied to the arts; of civil, topographical and mechanical engineering; of ancient and modern history; of law and civil polity; and of anatomy and physiology."

If our agricultural journals have contributed to the advancement of these movements, as we fully believe they have done, they have fulfilled one great object of their existence. Public opinion is pushing forward these institutions to similar conclusions throughout the country; and we trust it will not

be satisfied till we have elaborate professorships, ably filled and amply endowed, and connected with experimental farms throughout every leading state in the Union.

QUERIES RELATIVE TO BARLEY.

I AM informed that barley constitutes the principal food of horses and hogs in Mexico; that the latter take on fat very freely from its use; and that the horses fed on it are capable of enduring much harder service than those fed on Indian corn, and are kept in equally good condition as when fed on the same amount of other grain.

Having had my attention directed for some time to the cultivation of barley, I would be much obliged by the answers of any or all of the following inquiries:—

1. What is the amount of nutritive matter in barley, and what its nutritive power when compared with other food? (a)
2. How does it answer as food for horses, hogs, or other animals? (b)
3. What is the best variety of barley for cultivation, and proper period of sowing, in latitude 36° N.? (c)
4. Is it a certain crop—and if not, to what diseases and enemies is it subject? (d)
5. What amount can be grown per acre of land that will yield 40 bushels of Indian corn? (e)
6. After what crop, in rotation, will it produce best? (f)
7. What quantity of seed is required to sow an acre? (g)
8. What manures are best adapted to its growth? (h)

T. S. W. M.

Belvoir, near Lenoir, N. C., June 25th, 1849.

(a) The amount of nitrogen, or purely nutritive matter, in the grain of barley not dried, is estimated at 1.7% per cent.; and when dried at 2.1% per cent. The nutritive value of the food of our domestic animals, although a prime question in husbandry, has never, as yet, been definitely determined, as every individual employed in its investigation has differed somewhat in his result. The following is a list of equivalents, in weight, as to the relative value of several kinds of fodder, as compared with 100 lbs. of ordinary hay:—

Wheat,	41 lbs.
Peas,	45 "
Barley,	54½ "
Oats,	55 "
Beans,	61½ "
Clover hay,	90 "
Ordinary hay,	100 "
Pea straw,	125 "
Potatoes,	200 "
Cabbages,	250 "
Carrots,	275 "
Oat straw,	300 "
Barley straw,	300 "
Beets,	397 "
Wheat straw,	450 "
Bean straw,	450 "
Green clover,	475 "
Turnips,	500 "

According to other statements, 107 lbs. of wheat, 111 lbs. of rye, 117 lbs. of oats, 130 lbs. of barley,

198 lbs. of Indian corn, 177 lbs. of rice, 895 lbs. of potatoes, and 1,335 lbs. of turnips, are equal in nutritive power.

(b) Barley, in a green state, makes excellent spring fodder for soiling milch cows. It is also very good for horses, provided it be given sparingly at first, as it purges them; but after a little time, when the stomach becomes accustomed to it, the flesh and condition become wonderfully increased, and it is much more wholesome than their usual spring physic, as it answers the purpose of gently cleansing the intestines, without the risk of irritation. For sheep, it is more nourishing and comes earlier than rye; if fed off by them in April, it will spring up again, and, on good land, will produce a fair crop of grain.

When ground, the grain may be successfully applied to the fattening of swine, and doubtless it would serve as appropriate food for horses and other stock.

(c) The barley most commonly cultivated is the *two-rowed variety*, which should be sown as early in the spring as possible after the ground can be plowed and thoroughly pulverized, say in the month of March in latitude 36°.

(d) Barley, generally speaking, if properly cultivated, is a certain crop. The diseases to which it is subject, while growing, are such as attack other grain—the “smut,” the “burnt ear,” the “mildew,” and the “blight.”

(e) The produce of this grain, on land well prepared, is from 30 to 50 bushels, and sometimes more, per acre, weighing from 45 to 55 lbs. per bushel.

(f) In the order of rotation, barley may succeed wheat, rye, Indian corn, turnips, carrots, or a clover ley.

(g) From two to four bushels of seed may be sown per acre, according to the state of fertility or strength of the soil; and in this, as in all other kinds of grain, the utmost care should be observed that the seed be full-bodied and plump.

(h) Barley requires a somewhat lighter soil than wheat, and a heavier one than will bear tolerably good rye; but in all cases it must be well drained. A mellow, rich loam, ranging between light sand, or gravel, and heavy clay, is regarded as the best. Barnyard manure should never be applied directly to this grain, unless it be a light top-dressing of compost on indifferent soils, or in moderate quantity after the plants are somewhat advanced in their growth.

AMOUNT OF MINERAL MATTER ASSIMILATED BY VARIOUS CROPS.—It is found, on analysis, that an acre of wheat, being an average crop, carries off with it no less than 210 pounds of inorganic elements, viz: 30 pounds in the grain, and 180 pounds in the straw—a striking proof of the importance of consuming the straw upon the land. Barley takes off 213 pounds—53 in the grain, and 160 in the straw. Oats take 326 pounds—32 in the grain, 30 in the husks, 54 in the chaff, and 200 in the straw. A crop of turnips, of twenty tons per acre, when removed off the land, carries off 650 pounds of mineral matter. Potatoes, including the tops, take off 580 pounds, the tops containing about 400 pounds. Cabbage carries off nearly, 1,000 pounds.—*Huxtable.*

THE COW—HER DISEASES AND MANAGEMENT.—No. 16.

Lock Jaw, or Dead Palsy.—This disease, like many others, evidently proceeds from the application of cold when the body of the animal is overheated, and the small vessels of the surface are in an active state. Hence, it frequently follows over-driving; but, that a malady of this nature should occur, it must be connected with a certain constitutional irritability, which modifies, in a particular manner, the morbid cause.

As its name implies, this disease consists of a general stoppage of the circulation, which shows itself by the pulse being slow and irregular, and by a numbness, or loss of feeling in the whole external parts of the animal, but which is apt to be more conspicuous in the jaws, by preventing them from performing their usual functions. This disease is of a very dangerous nature, and is often attended with immediate death. In general, the internal system does not seem to be much deranged; for the animal is desirous to eat, if the state of the jaws will allow.

It may also have been observed, that the same disease is sometimes caused by external accidents, as wounds, pricks in the tendons, &c., as well as from worms in the stomach. When it arises from the latter, it is generally indicated by the worms crawling from the nostrils and mouth, and the uneasiness of the animal, as if gripped in the stomach and bowels.

Before proceeding to any particular course of medicine, moderate bleeding in the neck should be resorted to, say, in quantity, not to exceed a pint or a quart. As swallowing is prevented, from the contraction and stiffness of the jaws, external applications form the next and the most efficient means of relief.

Take of strong spirits of ammonia, 2 oz.; spirits of turpentine, 1 oz.; flour of mustard, 1 oz.; mercurial ointment, 1 oz.; opium, in powder, ½ oz.; marsh-mallow ointment, 2 oz.

In preparing the above, the flour of mustard, opium, and marsh-mallow ointment are to be well mixed with the mercurial ointment, after which the spirits of ammonia and of turpentine are to be added by degrees, and incorporated with the whole. This application is to be made to the animal twice a-day, by rubbing in at each time two ounces or more, all along the lower jaw and neck, wherever lies the connection of the muscles of the affected parts. When relief is obtained by these means, and the jaw is somewhat relaxed, then internal medicines will strongly co-operate; but as this requires some time, immediate attempts must be made, by glyster, to assist the action of the liniment. The glyster most proper at first should be of a purgative nature, like the following—to be administered in two quarts of water gruel:—

Take of common soap, 1 oz.; salt, a handful; sweet oil, ½ pint.

The soap being first dissolved in the gruel, mix the whole together, and inject, with a common glyster pipe and bag, into the rectum; and, after its operation, the following may also be given as a glyster, and repeated twice a-day:—

Take of mutton broth, 2 quarts; opium, in powder, ½ oz.; powdered valerian, 1 oz.

The best internal medicines are opium, valerian,

and mustard, the use of which should be preceded by the following warm, aromatic purge:—

Take of sulphur, from 9 oz. to 1 lb.; grains of Paradise, 3 drachms; saltpetre, $1\frac{1}{2}$ oz.; tumeric, $\frac{1}{4}$ oz.; cumin seed, $\frac{1}{4}$ oz.

To be mixed together, and given, milk warm, in two quarts of water gruel, and half a pint of molasses. This medicine generally operates briskly, and will sometimes continue for 10 or 12 hours. After its operation is over, the following may be given, at each dose, in a quart of strong camomile tea, and repeated every six hours, till relief is obtained:—

Take opium, in powder, $1\frac{1}{2}$ drachms; camphor, $2\frac{1}{4}$ drachms; valerian, $\frac{1}{4}$ oz.; mustard, $1\frac{1}{2}$ oz.

These applications should be accompanied by friction and heat to the surface; and the body of the animal, in general, as well as the parts affected, should be well rubbed, and covered with dry blankets so as to keep her warm.

Whenever the cause of the malady arises from worms in the stomach, evacuations by the bowels are the chief remedy. This may either be done by calomel, to the extent of one or two drachms, or by taking a strong decoction of savin; and when the evacuations are once obtained, so as to remove the cause of irritation, the medicines as last recommended above will effect a cure.

During the treatment, the cow should be frequently allowed to suck in as much as she conveniently can of a strong infusion of hay, well boiled, or water gruel; and when the disease remits, mashes may be given of bran, Indian meal, &c.

FRESH AIR.

MAN acts strangely. Although a current of fresh air is the very life of his lungs, he seems indefatigable in the exercise of his inventive powers to deprive himself of this heavenly blessing. Thus he carefully closes every cranny of his bedchamber against its entrance, and he prefers that his lungs should receive the mixed effluvia from his cellar and larder, and from a little modern patent aquarius, in lieu of it.

Why should man be so terrified at the admission of night air into any of his apartments? It is nature's everflowing current, and never carries the destroying angel with it. See how soundly the delicate little wren and tender robin sleep under its full and immediate influence, and how fresh and vigorous and joyous they rise amid the surrounding dewdrops of the morning. Although exposed all night long to the air of heaven, their lungs are never out of order, and this we know by the daily repetition of their song. Look at the newly-born hare, without any nest to go to. It lives and thrives, and becomes strong and playful, under the unmitigated inclemency of the falling dews of night. I have here a fine male turkey, full eight years old, and he has not passed a single night in shelter. He roosts in a cherry tree, and always is in prime health the year throughout. Three dunghill fowls, preferring this cherry tree to the warm perches in the hen-house, took up their airy quarters with him early in October, and have never gone to any other roosting place. The cow and the horse sleep safely on

the cold, damp ground, and the roebuck lies down to rest in the heather, on the dewy mountain's top. I myself can sleep all night long, bareheaded, under the full moon's watery beams, without any fear of danger, and pass the day in wet shoes without catching cold.

Coughs and colds are generally caught in the transition from an overheated room to a cold apartment; but there would be no danger in this movement, if ventilation were properly attended to—a precaution little thought of now-a-days.—*Watson's Essays on Natural History.*

HINTS ON THE MANAGEMENT OF HORSES.— No. 5.

BEFORE closing the subject of stables, we shall suggest some additions and conveniences which ought to be found in every well-arranged establishment.

A *boiling or steaming apparatus* is always advantageous, where many animals are kept, both for the health and additional vigor which an equal quantity of cooked food will yield over raw; and for the economy in feeding, wherever food has to be purchased at prices which it generally bears in our eastern markets. It requires stronger digestive powers, and a large expenditure of *vital force*, for the stomach to concoct raw food, than that which has been cooked, which is just so much subtracted from the capacity of the animal. This is an advantage always resulting in the use of prepared food, even when the animal is in good health. But when indisposed, and his digestive powers are temporarily impaired, raw food may have the tendency to aggravate, or at least prolong disease much beyond the period that would elapse, if he had a mild, nourishing aliment, that taxed his powers less. But when we consider further, that the food which has been properly prepared will yield 15, 20, or sometimes even 30 per cent. more aliment than the uncooked, we can readily determine the merits of the two systems by dollars and cents. With many articles, or at particular times, these advantages are not realized. Hay cannot, probably, from its great bulk, be steamed to advantage; but the inquiring owner will ask if some other operation may not be substituted as a preliminary to feeding it most judiciously. We answer, the cutting box can be advantageously used first, and, afterwards, it may be wet and allowed to remain for a few hours, to soften its dry, wiry stems, previous to being masticated. If a little salt be added, it will be more palatable; and it is well to throw into this, his ground provender, which is equally benefited as the hay or straw by this preliminary moistening, unless, which is better, the latter has been cooked.

If oats are fed whole, they might be either previously steamed or soaked; but when thus prepared, the horse should first have a feed of hay, partially to fill his stomach and check his appetite, or he may be so greedy as to swallow much of the grain whole, as a result of its more tempting preparation. It is a wise provision, to secure a thorough mastication of the grain when dry, that he cannot well swallow it in this condition; and the sweet farina yields a delicious morsel when subjected to his grinders, which ensures its being retained till thoroughly saturated with saliva, thus

most effectually preparing it for the operations subsequently required by the stomach.

When oats are cooked, much of the sweetness of the grain is to be found in the mucilaginous liquid in which it floats, or the flavor is readily yielded by compression; and the animal, finding it so palatable and easily swallowed, rapidly dispatches the savory repast. It is better, however, first to crush or grind his grain, then to steam or boil it, when it will need but little mastication. It is then readily swallowed, and all the nutriment contained in it passes speedily into the chyle ducts, through which it is carried into the arterial system, and yields to the animal all the muscle, &c., which it contains.

The boiler or steaming apparatus may be according to the fancy or convenience of the owner, as to size, style, arrangement, and location. It should be removed from all danger and combustible materials, and yet be convenient both to the granary and animals. Several plans of steaming and boiling arrangements have been given in the preceding volumes of this work, and we therefore omit any particular description here.

After cooking, care must be observed that the food be not allowed to remain so long as to ferment; for although this process is a useful one, in many cases, to prepare food in the absence of cooking, yet it is without benefit when this has been done; and it is very liable to pass into the vinous stage of fermentation, by which a portion of the carbon of the food, (one of the essential elements of respiration,) is converted into alcohol, which is of as little benefit to the animal as to man; and this, if not checked, speedily passes into the final and destructive stage, which is even more certainly poisonous than the preceding.

When cooked, it is better to give the food warm, not hot, but at the temperature of his own blood; say 95° to 100° F. When thus fed, the animal soon dispatches his meal; and if previously thoroughly rubbed down, and provided with a clean bed, and a quiet, well-aired stall, he lies down to refresh his wearied limbs, and replenish his exhausted system, and on the following morning is prepared to contribute his utmost for his humane and economical treatment.

There are several little conveniences that are too frequently neglected about the stable, but which are essential to its good management. There should be a harness room for keeping the gear out of reach of dust, and where it can always be found in its appropriate place. This should be made to fit nicely, without ever galling the horse. There ought, also, to be surplus articles, as reins, bits, headstalls, girths, &c., that may be wanted to repair such as are broken or worn; blankets and buffalo robes, for winter; and saddles, riding bridles, and martingales, for occasional use; and cupboards and shelves for oil, medicines, cloths, shoes, and the like. The currycombs and brushes ought to have a secure place near the stall, or in a box under the rack or feeding trough. The groom ought to have a number of tools to execute such little jobs as are constantly required in the repair of harness, &c., and which may be done at leisure hours, in his harness room, equally as well as to resort to the shops and run up numerous little bills, for repairs.

A sleeping room, or chamber, to be occupied by

one or more grooms, according to the number of horses kept, is indispensable to the safety of the establishment. Horses may be attacked with cholera, or other acute diseases, which require prompt attention. Should this occur in the early part of the night, the horse may endure agony till morning, by which time, he might possibly be beyond remedy; when, if near by, his moans and throes would not fail to arouse the groom, and immediate remedial applications might restore him to comparative health, and render him fit for his ensuing day's work. Horses frequently break loose from their stalls, when, if vicious themselves, or if they stray to such as are, much injury might result that could otherwise be prevented by prompt attention. It is not unfrequent that there are ailing animals which require oversight, or attention, later in the evening or earlier in the morning than they might receive it, but for their keeper's room being near. And in case of fire within the building, he could act with much more promptness than would otherwise be possible. But a person, thus employed, should be perfectly trustworthy, temperate, and of regular habits, or his position might produce much more injury than benefit. His room ought to be made comfortable, and, like the stables, be thoroughly ventilated. We have seen many that were more offensive than the stalls themselves, and as redolent of offensive odors as a closely-housed caravan.

In addition to having ample outlets for all the inmates in case of fire, every groom ought to be instructed, that a horse is perfectly unmanageable when surrounded by flames, and that the only chance of saving him, is, to throw a blanket closely around his eyes, when, if accustomed to obedience at the sound of his keeper's voice, he may be led out in safety. Thirty horses were destroyed in a single conflagration in this city, last winter, all of which might have been saved by a timely attention to the suggestions just made.

CULTIVATION OF THE PLUM.

YEARS ago, it was common to see exposed for sale in our stores, bushels of the common blue plum. Now, such a sight is comparatively rare. A brief chapter on the cultivation of this fruit, at the outset, may convince some that they yet can be cultivated. I have had experience, and a very expensive one, too.

Plums want a favorable soil for perfecting choice trees. A moist, rich, clayey loam has thus far proved the best adapted to this fruit, with me. I never cultivate the sprouts for stocks, and never bud on them, but carefully propagate choice varieties, which have been fully proved as such, on the strongest and the most thrifty seedlings only. I believe no other course will ensure so perfect success. Let those who purchase trees see that they get good ones, and their success will be more certain.

If, in laying out grounds, the walks are left wider than usual, and the centre is occupied with plum trees, it would leave the amateur every opportunity for the gathering of the premature fruit. This I consider the true way of managing the plum, where a plot is not reserved exclusively for its cultivation. These garden trees can be trained espalier, or fan-fashion, if desired. W. D.

Morristown, N. J., June, 1849.

CAMELS FOR TEXAS AND CALIFORNIA.

CAPT. C. W. WEBBER, the author of "Gold Mines of the Hila," and recently in the United States' service in Mexico, called at our office a few days since for the purpose of directing our attention, and enlisting our efforts in favor of the importation of camels, for the transportation of mails, passengers, &c., throughout our south-western frontier. We have long thought favorably of this project, and that camels, equally with the best breeds of cattle, horses, sheep, and swine, should be introduced for such sections of this country as have a proper climate, and appropriate duties to require their labor. This is evidently the case with a large portion of the territory recently ceded by Mexico to us, and includes, also, a considerable portion of the prairies of Texas, and the southern portion of Oregon. Wherever the climate is sufficiently warm, as it usually is upon this continent, south of 36° of north latitude, and especially inland near the Pacific coast, where the soil is arid or sandy and the country open, camels may be used as beasts of burden to more advantage than any other quadruped.

We therefore hope Capt. Webber may be successful in his enterprise, and trust the proper energy and capital from our enterprising countrymen will not be wanting to carry this undertaking out to a full and triumphant result. We may with equal propriety embark in this, as formerly in the importation of Merino, Saxon, Bakewell and Southdown sheep; Durham, Devon and Hereford cattle; the blood and Norman horse; the ass; and improved varieties of swine.

CAUSE OF DECAY IN TIMBER—SEASON FOR FELLING.

CONSIDERING the magnitude of the interests involved in the preservation of timber, it is surely a disgrace to us of the present day, that doubts should be as strong as ever concerning the true causes of its decay. In an absence of certainty as to these, for many years, attention has been turned away from the essential part of the inquiry, and directed merely to secondary points. The problem to be solved is, *What causes the decay of timber?*

In the first place, it is presumed that no one will dispute the fact that ancient timber lasted longer than modern. That being granted, we have only to ascertain what can have caused the difference. Our Anglo-Saxon forefathers knew nothing of bichloride of mercury, sulphate and pyrolignite of iron, chloride of zinc, nor creosote. There were no Kyans nor Burnetts, no Paynes nor Boucheries, in their days; yet, they perfectly understood the art of rendering wood imperishable, as is sufficiently attested by what remains of their works. The great, though forgotten architects, who fixed the wooden roof of Westminster Hall, in the time of Richard II., and those who erected the old country churches and corner castles of England, must have known much better than the architects of the present day how to prepare their timber; or their wood work would not have remained as sound as when it was put together by their artizans.

As ancient practice is not sufficiently recorded, we can only look to the nature of the timber itself in order to learn the causes which hasten its decay.

Foremost, among these, is its exposure to *any moist atmosphere exceeding a temperature of 33° F.*; and the decay will proportionably be hastened as the temperature of that atmosphere is increased. Timber, absolutely dry, would be unable to undergo decomposition at any appreciable rate. A piece of wood found at the back of one of the friezes, at Athens, by Lord Elgin, is as sound at present as it could have been in the days of Phidias, more than 2,000 years ago. Even animal matters, rapidly as they putrify, are preserved for centuries in the absence of moisture. Travellers assure us that in the arid plains that stretch northwards beyond the Himalayan range, the corpses of men and the carcasses of animals dry up instead of rotting. The Gaucho hangs his beef in the sun, and in the dry climate of the Pampas it hardens as so much hide, like which it may be kept for use.

If then, mere dryness is sufficient to arrest the decay of animal matter, how much more effectual must be its action upon vegetable substances in which a natural tendency to rot is infinitely less inherent. Sawdust is but timber broken to pieces; damp sawdust rots rapidly; dry sawdust will all but last forever. Charcoal, one of the most unchangeable forms of vegetable matter, is only timber from which the last trace of water has been expelled by heat. Absence of moisture is therefore the great cause of preservation, as its presence is that of decay.

Complete dryness may be assumed to have been the cause of the durability of ancient timber. At least, in the present state of our information, we can refer it to nothing else; and dryness is amply sufficient to account for it. In the opinion of one of the most experienced and philosophical of modern writers, the late Sir Samuel Bentham, dryness was the great object to be obtained in preparing timber for naval purposes. Drying houses were recommended by him; and during all the period of his employment as civil architect of the British navy, this distinguished officer never ceased to point out the indispensable necessity of securing the dryness of timber before all other things. To the artificial methods available for this purpose we need not here allude. What we have to deal with is the natural means of bringing it about. Those natural means are much more effectual than any others, and it is a question whether they can be superseded by any artificial method whatsoever. The means which trees possess of relieving themselves from moisture are their leaves, which serve as a very powerful pumping apparatus, incessantly drawing moisture from their interior, and giving it off to space. It is true that the same action which produces a discharge of fluid from the surface of leaves has at certain seasons the counter effect of again charging the apparatus with more fluid, to replace that which is thrown off; but this happens only at certain seasons. In spring, a tree is in full force; the roots then draw fluid from the soil, the trunk draws it from the roots, leaves draw it from the trunk—and waste it; and this goes on so long as the soil is filled with the rains of spring—so long as vitality is active. But as the summer advances, the earth becomes dry, refuses the same abundant supply as before, and all vegetation slackens. The leaves, however, still go on, pump, pump, pump;

till at last, the roots becoming torpid, the leaves draw off all the free fluid that the trunk contains; and when the last supply that it can yield is exhausted, they perish. At that time, the trunk, by natural means, is dried to a great degree; the free water lying in its cavities is gone; and the whole fabric acquires a hardness it did not know before. Until the leaves are renewed in the succeeding spring, but small internal change occurs; the roots are torpid and will scarcely act; the pumps are broken; and little more fluid is introduced into the wood. Hence it is obvious that the period when the timber of a tree is naturally free from moisture and therefore least prone to decay, is between the fall of the leaf in autumn, and the renewal of vegetation in the spring; and the nearer the fall of the leaf the most free.

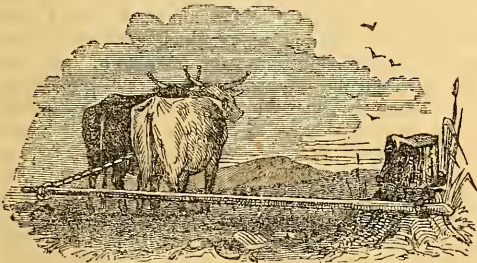
In this point of view, timber which is intended to be durable should be felled late in the autumn or in mid-winter. No artificial processes will relieve it of its moisture so economically and so well as the means which Nature has provided. On the other hand, if it is felled when the tissue is full of fluid, it is much to be doubted whether any artificial methods of exhaustion are capable of seasoning it properly.

B.

STUMP PULLERS.

VARIOUS have been the contrivances for the extraction of stumps from new lands; but as they have usually been constructed on the principle of the windlass, or capstan, they have generally been too expensive, and often too unwieldy, for profitable use. As a simple method, within the reach of all, at a trifling cost, we would recommend the following for removing large stumps.

Procure a lever, made of dry lever wood, horn-beam, or red elm, about twenty-five feet long and six or eight inches in diameter, and two yoke of oxen, with a good stout log chain, to apply to the stump, and two other chains, for attaching the oxen to the lever. This is all the *machinery* necessary, which may be operated in the following manner:—

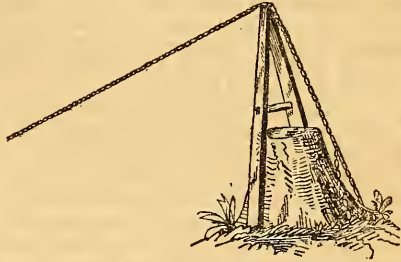


STUMP PULLING.—FIG. 67.

Put the log chain around the stump, a little above the ground, and make what is called a "log hitch;" lay the lever horizontally on the ground, with the large end tightly confined against the stump by means of the chain; then hitch the cattle to the small end of the lever, and drive them round the stump in a circle, of which the lever is the radius. Less than one revolution round a stump will generally twist it out of the ground; but, should not the power thus applied be sufficient to draw the

stump, then the side roots may be uncovered and part of them cut off, when it will be easily removed.

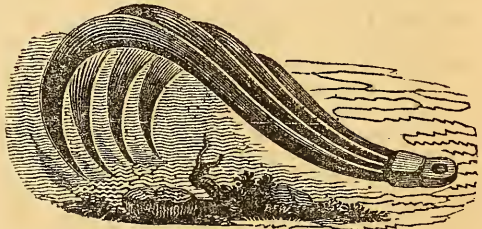
The cut below, Fig. 68, also represents a very cheap and efficient stump machine described in the "Albany Cultivator." It consists of two pieces of hard timber, six inches square by two feet in length, firmly fastened at the top by a strong band of iron, with a cross-piece in the middle, in the shape of a three-cornered drag. When applied, it is set astride the stump, with a strong eighteen-foot chain fas-



STUMP MACHINE.—FIG. 68.

tened to the top of the machine, and to a root on the back side of the stump from the team. Two yoke of oxen, it is stated, will pull out almost any common stump that has been cut from three to four years.

Another very useful implement, to attach to small stumps, bushes, clumps of roots, and bogs, for the purpose of pulling them out of the ground, is denoted by Fig. 69. It is made entirely of iron,



BUSH OR ROOT PULLER.—FIG. 69.

with two, three, or four claws. These are hooked to the stump, or bush, close to the ground; the cattle are then hitched to it by a chain, by which the stump or bushes are easily hauled out. In clearing or grubbing ordinary land, this machine, with a pair of oxen, will do the work of half a dozen men.

Do KING BIRDS EAT WORKING BEES?—The king bird has been regarded as one of the greatest enemies of the apiarian, in some situations, from the fact that it is a devourer of bees. Wilson, the ornithologist, suggested that the bird only picked out the drones, and never injured the working bees. Other close observers have come to the same conclusion. One writer states that to test the matter, he killed a number of the birds, and though he found many drones in their crops, he could find no working bees in them.

TOPPING INDIAN CORN.

IN your article in the July number of the *Agriculturist*, on work for July, north and west, under the head of "Topping Indian Corn," you state the opinion of many to be that the practice is an idle waste of time, and injures the quality of the grain. With regard to its injuring the grain, I have but one idea to advance, and that is this: You may take a field of ten acres, top one half of it, at the usual time of topping; that is, when the milk of the grain is beginning to harden, and let the other half remain untopped, and leave it in that state until fit for cribbing, and you will find that part of the field not topped, from seven to ten days in advance of the part topped.

Now, to condense my idea, as above stated, in a few words, I will simply state that when the milk of the grain is beginning to harden, that part of the stalk above the ear is a useless appendage; for, on removing it, it immediately withers and dries up for want of the nourishment it has received from the part below the ear. This fact clearly accounts for corn that has been topped not maturing so soon as that having the tops on. The sap that once made ear and stalk above the ear, is now all employed in making and filling out the grain, thus making it more perfect and plump.

J. B. L.

Brookville, L. I., August 1st, 1849.

THE BUTCHERIES OF NEW YORK.

It is quite time our city fathers proceeded efficiently for the removal of these intolerable nuisances. The stench from these yards is perfectly unsupportable, and has its full share in bringing, augmenting, and continuing the plague of cholera within our city. Let any man go through miles of our streets, in the upper portion of the city, on a hot day, and he will almost *feel* the fetid breath, as it ascends from these receptacles of blood and offal. We would forego the use of meat six months in the year, and so, too, would half the citizens exposed to the noxious effluvia, rather than submit to it.

These pestilent butcheries have no business on this island, and they ought, within reasonable time, to be totally removed from it. Why pay more deference to the charnel houses of cattle, than to those of our own species? By almost universal consent, no burials are permitted below the Trinity grounds, near 200th st., some eight miles above the south end of the city—yet they are incomprehensibly less objectional. There, decaying matter is buried, four feet at least below the surface. In the other case, it is left to stagnate above ground, pollute the air with its poisonous miasma, and soak into the surface as it leisurely steals along, for miles on miles, through the gutters. During the afternoon and evenings, our streets absolutely run with blood, and yet there is enough left, with other offal, to create a pestilence in every neighborhood where they exist (and where don't they, in any part of the city, save the most business portion, or a favored and comparatively small part of it, occupied by the wealthiest classes?)

The remedy for all this, (and without mitigating the excessive carnivorous habits of our citizens—a characteristic in which they are not exceeded by any body of savages on the face of the globe,) is simply, a total and entire removal of every butchery

from the island. Put salt water between these death-dealing, blood-spilling, stench-creating, pestilence-producing establishments and other civil pursuits. And where shall they go? is the very pertinent inquiry. To the Jersey shore, and the northeastern side of the Harlem River. All the animals driven in for slaughter, pass these points to reach the city; and those floated to us by water may as well debark there as elsewhere. Or they might be located on any railroad leading to the city; and at a distance of even 20 or 30 miles, they would still be within an hour's ride.

The animals would thus have time to refresh themselves, and resume that quiet, healthy condition, so essential to render their meat wholesome. It has been proved that meat slaughtered during the later hours of night, will keep much longer than if killed during the day. This is the result of the diminished action of the arterial system, when the pulse is least excited; and consequently, it will approximate to this condition, just in proportion to the quiet and repose of the animal at the time he is killed.

The above arrangement would remove from us another intolerable nuisance, in the droves of feverish, excited animals, that frequently break loose, and, goaded to madness, rush wherever they will, often endangering life and limb. If these establishments are clustered together, as they ought to be, ferry boats can bring to the city the prepared carcasses only, leaving the tallow, the offal, and much of the bones, to undergo such preparations as may be necessary to fit them for use. This would necessarily carry with them the tallow melters, soap-boilers, glue manufactories, bone cleaners, and tanneries; and if they needed any assistance to remove their odoriferous appendages towards the raw material, we would give them the full benefit of the municipal levers to aid them in their meritorious undertaking. Distilleries, also, might be advantageously added to the above list.

Now, why should not this be done by the strong arm of the law, impelled, as it would be, by the sustaining voices of nineteen twentieths of the intelligent citizens? Echo answers, why? Our worthy and efficient mayor has made some good moves in cleansing this Augean stable of ours, and he needs but the sustaining influence of our reflecting inhabitants, to push every well-merited reform to a successful conclusion. If this is promptly and generally afforded, the work will be accomplished—if not, not—and there an end; and we must continue to jog on, like beasts of prey ourselves, surrounded by the decaying offal of our own gluttony! A beautiful comment, this, on the progressive improvement, intelligence, and humanity of our self-lauding race.

This exodus of stenchers, must carry with them an important and salutary change in the management of fresh-meat exchanges. Animals would be purchased by fewer persons, and in larger numbers; they would have extensive and permanent ranges of sheds, buildings, and yards; their arrangements and appointments would be vastly more convenient and complete; and their operations would be perfectly systematized and much more economical. It would, in a measure, tend to a division—an advantageous division of labor. One man would then purchase

for slaughter, what twenty men now do; certain establishments confining themselves to particular descriptions of animals, for which their arrangements would be entirely adapted. The preparation of these for market, would necessarily be more advantageously done, than if a few mixed animals were huddled together, as of bullocks, calves, sheep, or swine. When thus prepared, another class of dealers, those who sell in market, would come in, and take the dressed carcasses for retailing. Each, it is evident, could thus make more money, if they buy and sell at present prices, than either could do separately; but the result would probably be, that in consequence of the greater economy and dispatch thus secured, the article would be furnished at cheaper rates to the consumer.

Another vast advantage would result in a proper disposition of all the blood and offal. What now is made the destruction of health and life, would, by proper arrangements, be made most effectively to sustain both. There are probably 80,000 bullocks, 70,000 calves, 150,000 sheep and lambs, and 50,000 swine annually butchered within the city, to say nothing of horses, dogs, cats, and smaller game. If all the refuse of these, not consumable as food or in the arts, could be composted with peat, charcoal, plaster of Paris, sawdust, tanbark, turf, and the like, the product would be rendered inodorous, and when properly decomposed, might be carried upon the land, where it would afford mines of wealth to the farmer, the market gardener, and the fruit or ornamental horticulturist. The beneficial result of this arrangement would be felt in the increased supply, the improved quality, and diminished prices of our fruits and vegetables. The blood and offal from the above number of animals would yield sufficient, if properly composted, to manure 10,000 acres of land; in the most ample manner, and its value could not be estimated at less than \$200,000 annually. Here would be a vast yearly profit to some one, which is now worse than thrown away. The consumption in the city of grown bullocks alone, has been increasing at the rate of 5,000 per annum for the last three years, and other animals in the same ratio. How soon, at this rate, will it require a small city itself, to contain the butcheries and their kindred occupations?

What a splendid arrangement could be effected with this whole subject, grown to the size it now is, if under the exclusive control of one intelligent mind. And American citizens can accomplish more than an autocrat, when they form a well-concerted and combined movement. What well-arranged streets and lanes; ample, shaded, and well-paved yards; thorough drainage; complete fixtures and rooms for slaughtering! What ample, well-aired, convenient receptacles for the display and wholesale disposal of their fabrics! Here would be a fine field for the study of disinfectants by the man of medicine; and an equally desirable one in the science of composting, for the agricultural chemist; the practical butcher would resort thither for the renewed study of his art, which he had found had all been learned wrong before; and even the man of refinement and rural taste might receive a pleasure from the combination of perennial lawns, tasteful shrubbery, and graceful woodlands, inter-

persed amid the charnel houses of the quadruped—something akin to that imparted by straying among the mouldering relics of humanity. They would lack the sentiment and association which attaches to a Greenwood or Mount Auburn; but they would at least assure us, that the most revolting occupation necessary to fallen man, would, so far as practicable, be shorn of its most odious features and accompaniments.

SOUTHERN PLANTING—COW PEA—COTTON SEED, ETC.

THE above caption I transcribe from the heading of an article in your May number, written by Col. Hampton. This paper is worth a great deal to me. It supports me, in the views I first started, in your columns, in 1843-4, and afterwards in the Southern Cultivator, for which I have received by the correspondents of the latter, full many a belaboring. I presume, now, with Col. H. as a leader, that I may assure all planters of the cow-pea family, that they would do well to take advice and be cautious. I have planted a great many varieties of this pea, and to get the "red-ripper"—the same as the "red-winter" pea, of Col. H., I begged Governor Hammond to send me a barrel, which he of course did. I have now as many kinds of peas for experimenting as has any one, kindly sent me by J. V. Jones, of Georgia, and Robert Chisholm, of Beaufort, S. C.

I sow peas for their shade and manure to my land, and have no idea of using them hereafter, except for store hogs. I expect to fatten 75 or 80 hogs this winter, and will have pinders and potatoes enough to do so. I made, last year, 8,000 lbs. of pork, and hope to put up 15,000 lbs. this winter. The past season, I hauled out, with ten hands, 100 four-horse loads of manure, and cotton seed, say ten loads to the hand, and had I not undertaken to do too much fencing, &c., I would have doubled my manure. Fifty head of hogs gave ten large loads of manure, by using close pens 9 by 30 feet, and littering heavily with corn stalks. I am trying what manure and close planting with corn will do. I do not expect to succeed fully, as I do not intend the spot for corn until after breaking up.

M. W. PHILIPS.

Edwards' Depôt, Miss., May, 1849.

CURING PORK IN WARM WEATHER.

IN the March number, at p. 92, of the current volume of the Agriculturist, Mr. Robinson cites a Mr. Smith's reasons why pork is not made south to a greater extent, from the difficulty of not having "sufficiently cool weather, at killing time, to save the meat."

With respect to the gentleman belonging to so extensive a family, I would state that I know a Mr. Smith, who always has the best of meat on his table—good sweet ham and pork, the latter from two to six inches thick—and he never cares for the weather, nor wishes his meat to get cold before it is cured, but kills, and packs it down, not only the same day, but the same hour it is butchered, if the time permits. He thinks, if not allowed to freeze, the salt will penetrate it so freely that it will cure quicker and much better than it otherwise would do. D.

Morristown, N. J., July 14th, 1849.

PROGRAMME OF THE TWENTY-SECOND ANNUAL FAIR OF THE AMERICAN INSTITUTE.

EXHIBITORS of samples or specimens for premiums, excepting cattle and other live stock, agricultural and horticultural productions, &c., are required to bring them to Castle Garden, in the city of New York, and receive a certificate from the Clerk of the Fair, on Friday and Saturday, the 28th and 29th of September, previous to opening of the exhibition.

FIRST WEEK.

Monday, Oct. 1.—Will be appropriated for the arrangement of the contributions. Vegetables, Fruits, and Flowers, for the Horticultural Room, should be brought this day, before 12 o'clock.

Tuesday, Oct. 2.—The exhibition will open to the public at 9 o'clock, A. M., and close at 10 o'clock, P. M., which arrangement will continue during the fair. The opening address will be delivered this evening, at 7½ o'clock, in the front saloon. A band of music will play during the evening. At 9 o'clock, a grand display of fireworks.

Wednesday, Oct. 3.—The steam engine, with moving machinery, will be in operation, and continue during the fair.

Thursday, Oct. 4.—Spading match, plowing, and testing of plows, at Flushing, L. I., in conjunction with the Queen's County Agricultural Society. Steamboats will leave the Battery at an early hour for the plowing ground. An address on the field.

Saturday, Oct. 6.—Fireworks this evening at 9 o'clock.

SECOND WEEK.

Monday, Oct. 8.—Great show of choice roses and dahlias at 12 o'clock, for special premiums. Cattle and other live stock to be exhibited on Wednesday, must be entered on the books this day, and pedigrees delivered to the clerk, at the Committee Room at Madison Cottage, corner of Fifth Avenue and Twenty-third street. If previously sent to A. Chandler, Superintending Agent of the Institute, they will be attended to.

Wednesday, Oct. 10.—The cattle show will open at 10 o'clock, A. M., at Madison Cottage, corner of Fifth Avenue and Twenty-third street, when all the animals must be on the ground.

Thursday, Oct. 11.—The second and last day of the cattle show. The Hon. Levi Woodbury will deliver the anniversary address at the Tabernacle, at 7½ o'clock P. M. Tickets, gratis, may be had of any of the managers, or at the clerk's desk. Music by an accomplished choir, under the direction of Mr. George Andrews.

Saturday, Oct. 13.—Pyrotechnic exhibition in competition for premium, at 9 o'clock, P. M. Each exhibitor will be required to fire three pieces. Entries to be made on the books before 12 o'clock, M.

The programme of the third week and notices of aquatic exhibitions, addresses, and other interesting exercises and displays, in addition to those named above, occurring from day to day, will be published in the city papers.

CHEAP MODE OF FATTENING HOGS.—Allow them to run at large, and teach them to break into your neighbor's corn field every night.

COMPARATIVE ANALYSES OF BONES PREPARED BY STEAM AND BY CRUSHING.

At the monthly meeting of the Highland and Agricultural Society of Scotland, in February last, a new method of reducing bones to a high state of division was submitted by Mr. James Blackhall, of Edinburgh. His process, the details of which have been published in different agricultural journals, consists in exposing the bones for a certain length of time to the action of high-pressure steam, by which, according to Mr. Blackhall's statement, they are brought into a much higher state of division, and at a much less cost, than by the ordinary method of crushing. Mr. Blackhall's original idea was, that the bones were thus dissolved, and he conceived that his process would replace the common method of solution by means of sulphuric acid.

The following are the results of two analyses of bones by Dr. Anderson, the society's chemist, prepared by the new process—No. I. by Mr. Blackhall, and No. II., which was sent to the laboratory for analysis, by George Cranstoun, Esq., of Corehouse:—

	I.	II.
Water, . . .	12.66	13.86
Animal matter, . .	27.37	19.90
Bone earth, . . .	59.97	66.24
	100.00	100.00

In order to form a correct estimate of the advantage of Mr. Blackhall's method, it is necessary to compare the composition of these bones with that of those prepared by the ordinary process, as it is very evident that a certain proportion of the gelatine, or glue, which is very soluble in boiling water, must have been extracted by the steaming. In looking into the subject, however, Dr. Anderson was unable to find any analysis of bones in the state in which they are used as a manure, and he found it necessary to analyze several specimens of agricultural bones, of which the following are the results:—No. I. were drill bones, in pieces about an inch in length. No. II. ordinary finely-crushed bones; and No. III. the entire bones in the state in which they are sold to the bone crushers by the persons who collect them:—

	I.	II.	III.
Water, . . .	10.00	10.39	14.79
Animal matter, . .	41.88	42.60	37.02
Bone earth, . . .	48.12	47.01	48.19
	100.00	100.00	100.00

From a comparison of these analyses with the former, it is manifest that they contain much more animal matter than the steamed bones, the amount averaging 40 per cent.; while in the latter, in one case, we have only half that quantity, and in the other about 27 per cent. Now it must be very clear that, in the production of a ton of steamed bones, it is not sufficient to reckon the mere cost of steaming in addition to that of the crude bones, but that the loss of animal matter must be taken into account. Supposing the crude bones to contain exactly 40 per cent. of animal matter, a very simple calculation shows that they must lose 25 per cent., in order to yield a substance which shall contain 20 per cent. of animal matter. Supposing,

then, that the crude bones cost £4 per ton, the same quantity, as prepared by Mr. Blackhall's process, would cost £5, 6s. 8d., independently of the cost of steaming. It is true that the whole quantity of the phosphate of lime will remain in the bones, but it must be recollected that the gelatine which is extracted is a very valuable manure, and extremely rich in nitrogen, so much so that Bous-singault, who has given a comparative table of the value of manures, founded upon the amount of nitrogen they contain, estimates, (irrespective of the phosphate of lime,) six parts of bones as equivalent to 100 of farmyard manure. Now, by Mr. Blackhall's method, the animal matter extracted must be entirely lost, or it must be recovered by evaporating the condensed steam, or, in the event of the quantity of water being sufficiently small, by converting it into a compost. Any such operations, however, must, to a greater or less extent, add to the original cost of the bones.

It is quite possible that, by the use of a proper steaming vessel, the quantity of gelatine extracted may be reduced considerably under what it was in either of the specimens analysed, but it admits of question whether this very extraction may not be connected with the softening process. It is well known, at least, that bones, from which all or nearly all the animal matter has been extracted by boiling in water under pressure, are so soft that they may be reduced to fine powder by rubbing between the fingers. On the other hand, it is necessary to mention that, in an experiment performed by Mr. Slight, of Edinburgh, with high-pressure steam, of 35 lbs. to the square inch, the softening was not by any means so great as Mr. Blackhall described, as the bones retained their form, and required the use of a cake-breaking machine to reduce them to powder.

These are disadvantages which are like to limit considerably the value of Mr. Blackhall's process; but it may, notwithstanding, prove valuable in remote districts, where small quantities of bones may be collected at such a distance from a bone mill as to render it impossible to transport them to it. The superiority of steamed bones as a manure is a question which can be properly determined only by experiment in the field, and it is not impossible that good results may be obtained from them, though they can never form a substitute for bones dissolved by an acid.

REMARKS ON THE NUTRITIVE VALUE OF CORN COBS.

It is well known that the manure of an animal varies in quality with the food which it eats; and that generally manure is richer in nitrogen bodies, and less rich in non-nitrogenized matter than the food consumed. Probably a greater proportion of 100 lbs. of nitrogen bodies would be assimilated by the system, if it were mixed with 500 lbs. of non-nitrogenized matter, and still more if mixed with 1,000 lbs., than if taken into the system undiluted or alone. It should be borne in mind that it is as essential for food to contain bodies destitute of nitrogen, (such as starch, sugar, oil, &c.,) or those which go to support animal heat and respiration in the body, as it is for it to have nitrogen compounds to nourish or supply the waste of the living tissues. Hence food, suited best to sustain animal life, is that

which is made up of these two classes of bodies, mixed in the proper proportion. And a deficiency in the one is equally as deleterious to the healthy existence of the animal as a deficiency in the other; therefore we can hardly say that one of these classes is in reality more essential to the maintenance of life than the other. They both seem to perform equally important offices. In this view be taken, the cob cannot be regarded as deficient in those bodies which contribute to support respiration and nutrition.

The table below shows about the amount of the several proximate organic bodies thrown away in rejecting the cob, calculated from the analysis of the small white-flint variety. 1,000 lbs. of ears contain not far from 200 lbs. of cob and 800 lbs. of grain. These contain the following bodies in the following proportions, expressed in pounds and decimals of a pound:—

	200 lbs. Cobs.	800 lbs. Grain.	1,000 lbs. Ears.
Sugar and extract, . . .	13.582	115.320	128.902
Starch,	0.003	457.384	457.387
Fiber,	127.687	7.712	135.399
Oil,		39.824	39.824
Zein,		31.856	31.856
Matter separated by potash from fiber,	45.404	51.856	97.260
Albumen,	1.518	37.186	38.654
Casein,	0.238	0.689	0.927
Dextrine or gum, . . .	2.310	23.224	30.534
Resin,	1.806		1.806
Glutinous matter, . . .	7.402		7.402
	200 lbs.	800 lbs.	1,000 lbs.

In the above table, the inorganic matter is not separately considered, it being distributed among the several organic bodies. By rejecting the cobs of 1,000 lbs. of dry ears, about 200 lbs. of organic matter is lost, which consists of 13½ lbs. of sugar and extract, 127½ lbs. of fiber, 45½ lbs. of matter separated from fiber by a weak solution of potash, 1½ lbs. of albumen, 0.288 of lb. of casein, 2.31 lbs. of gum or dextrine, 1.8 lbs. of resin, and 7.4 lbs. of glutinous matter. Hence the cob, although not rich in nutritive matter, can by no means be said to be destitute of those proximate principles which go to support respiration and sustain animal heat, and those which are capable of being transformed into nerve, muscle, &c., and the phosphates which contribute so largely to the formation of bone.—*N. Y. State Transactions, for 1848.*

RULE FOR CONSTRUCTING CHIMNEYS.

A VERY erroneous practice prevails, among chimney builders, of contracting the passage for the smoke at the lower part near the fire place. "This," says Treadgold, "is like contracting the aperture of a pipe which supplies a jet." Chimneys, to draw well, should be contracted at the top. The rule for ascertaining the required degree of contraction is as follows:—

Let 17 times the length of the grate, in inches, be divided by the square root of the height of the chimney, in feet, and the quotient will be the area in inches, of the transverse section of the aperture at the top of the chimney. For example, a grate 15 inches in length, with a chimney 36 feet high, to which the contracting top is required—17 multiplied by 15 gives 255, which number divided by 6, the square root of 36, gives 42½ inches for the area of the top.

SHORTHORNS vs. THE NATIVE BREED.

MUCH has been written and much more said since the improvement of our native cattle commenced in this country by a cross with the shorthorns. I have been surprised at the apathy, and I might say, total indifference of most of our farmers on this important subject; to say nothing of the opposition of a few of them to any improvement whatever as being necessary in our native breeds.

My mind has been directed to this subject by having seen and compared many of the droves which have passed from the west on their way to New York, since the 1st of March, up to the 1st August. Mr. George Stewart, of Morristown, New Jersey, has furnished me with a list of each drove, which he obtained from the drover, as the cattle passed, and they amount to 10,983 head. Of these, the greatest part were from the state of Ohio, fattened in the Scioto Valley; and the remainder, were from Kentucky, mostly a cross with the shorthorn descendants of the old importations of 1817, together with all the later importations by Mr. Clay and others. Those from Ohio were from the Ohio Company's importation, and others brought in from different sources, which have been bred from. Between the blood cattle, in the states of Ohio and Kentucky, there is no great difference. I have visited the principle herds in both states, and where attention has been paid to the selection of the best bulls, there appeared to be about the same degree

of excellence. But what surprises me most, is, that every man who calculates to raise a calf does not put his cow to a shorthorn bull, whether it is intended for the shambles or the pail. The value of the animal is increased at maturity, on an average, ten dollars, and in many instances much more, over and above that of the price of the animal crossed upon. I speak advisedly on this point and will appeal to a test at the Bull's Head, in New York, for a confirmation of my assertion.

Great expenditures have been made and are still making to procure this breed of cattle from England, and the stock may now be had at reasonable prices in sufficient numbers to cross with our native stock in all those parts of the country where it would be advisable to be done; that is, only where feed is abundant. In short pasture, the Devons do much better.

SAMUEL ALLEN.

Morristown, N. J., August, 1849.

TAPLIN'S HORSE POWER.

ONE of the best horse powers with which we are acquainted, is that more commonly known among us as the circular, or Taplin's. Fig. 70 gives a good idea of it. It has a wooden rim, or circle, from 18 to 20 feet in diameter, to which iron segments are bolted on the under side. These gear into a cog wheel, hung upon a shaft on which, also, a drum, or wheel, is attached. This shaft, revolving, moves the machinery by a belt. If preferred, the drum and shaft can be

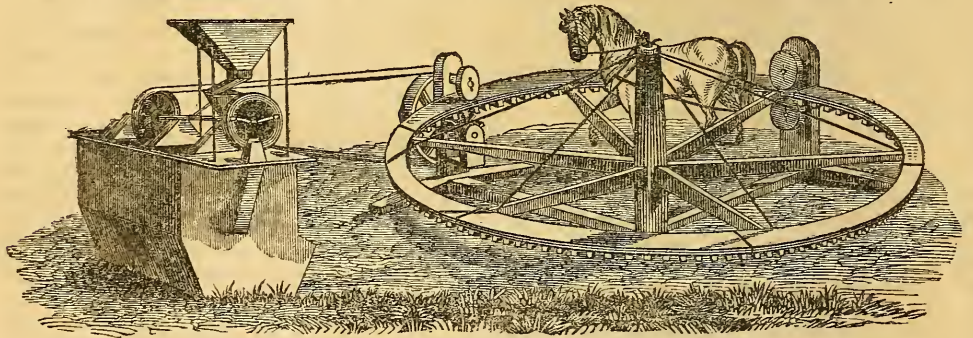


Fig. 70.

dispensed with, by gearing a cog wheel, attached to the machine to be propelled, into the cog wheel of the horse power. The horses are attached to whiffletrees, hooked to the arms, close where they join the rim, and thus move the power as they travel round. It can be transported easily from place to place in a common farm wagon, and may be set up in twenty minutes, and taken down in half that time. It is simple in its construction, not liable to get out of order, and when so, is easily repaired. It may work in the open field, though it is better to have it under cover, when stationary, especially during stormy or very hot weather.

When the team is to be attached to this power, take the pin out of the standard which keeps the rim upon a level, and lower one side of the rim to within two feet of the ground; now step a horse over; then swing it round to the next hook for a whiffletree, and step over another horse, and so continue till as many are put on as are wanted.

For efficiency, durability, and simplicity, we pre-

fer this power to all others. Price \$75 to \$80, according to size and quality. For sale by A. B. Allen & Co., 189 and 191 Water street, New York.

RAISING SWEET POTATOES FROM SEED.—The yam-potato vines bloom in August. In about a month after, they form a pod. The seeds are then formed of about the size of sage seed, and of the same color. The pods should be noticed and gathered when ripe, or else the seeds will soon drop. In the spring, at the usual time of sowing, they may be sown in the same way as with cabbage seed. They will not come up quite so soon, but will continue doing so through the spring. The plant is small and delicate in appearance, and should be drawn in a wet season, with a little dirt attached to it, and transplanted. The leaf and vine have a different appearance from the potato, and the tubers will be found to grow larger and smoother than when cultivated the usual way.—*Recorder Supplement, Georgia.*

REARING AND MANAGEMENT OF POULTRY.—No. 1.

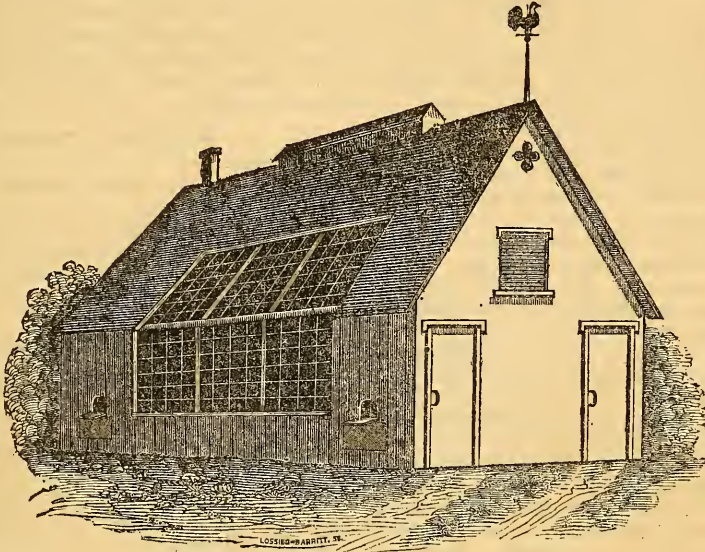
It is a mooted point, as yet, I believe, amongst farmers, how our domestic fowls can be made to net the most profit; still, I think the opinion is fast gaining ground that a good hen house, with a large range attached, is the true way—at any rate, it has been stated, on good authority, that "poultry, kept for profit, should never be allowed to roam at will, leaving their eggs here and there to rot, nor furnish food for foxes, weasels, and skunks."

When we consider that the value of the poultry annually raised in the United States is \$12,000,000, it is surprising that this branch of domestic industry is looked upon as of so little importance; and as

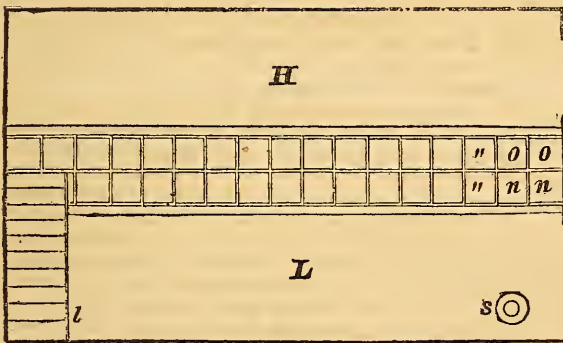
it is in the province of your journal to keep this and all kindred subjects before the people, it is desirable that you insert a series of practical articles upon the "Rearing and Management of Poultry," from the shell to the spit, similar in character to those now in course of publication on the horse, the cow, and swine. I think there is no doubt, that, if they were furnished, they would prove very acceptable to a large number of your readers, and would be productive of much good. J. B. D.

Boston, August, 1849.

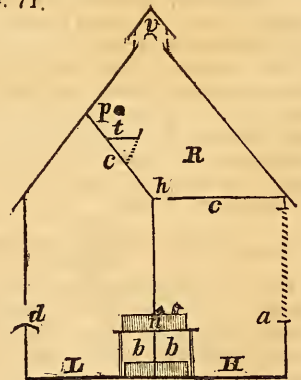
We think the suggestion of our correspondent an important one; and we will endeavor to impart



PERSPECTIVE VIEW OF A HEN HOUSE.—FIG. 71.



GROUND PLAN.—FIG. 72.



TRANSVERSE SECTION.—FIG. 73.

to our readers as much information on the subject as our knowledge and experience will afford, and the limits of our pages will allow.

Description of a Hen House.—Fig. 71 represents a hen house, in perspective, 20 feet long, 12 feet wide, 7 feet high to the eaves, with a roof having a 7-foot pitch, a chimney top, a ventilator on the

peak, twelve feet in length and one foot or more in height, and openings in the gable ends for the admission of fresh air. In the easterly end, there are two doors, one leading into the laying apartment and loft, and the other into the hatching room. In the same end there is also a wooden shutter, or blind, which may be opened, whenever necessary,

to let air or light into the roost. In the back, or northerly side, there is a large lattice window, three feet above the floor or ground, 4 by 12 feet, for the purpose of affording fresh air to the sitting hens. In the front, or southerly side, there is a large glazed window, 4 by 12 feet, and another in the southerly side of the roof, of a corresponding size, designed to admit the light and heat of the sun, in cold weather, to stimulate the laying hens. In the southerly side, there are also two small apertures three feet above the floor or ground, for the ingress and egress of the fowls. These openings may be provided with sliding shutters, as well as with "lighting boards," inside and out, and may be guarded by sheets of tin, nailed on below them, to prevent the intrusion of rats, weasels, or skunks.

The building may be constructed of wood or other materials, and of such style, or order of architecture, as may suit one's taste, only preserving the internal arrangements and proportions, in reference to breadth and height. As a general rule, as regards the length of the building, each hen, irrespective of the cocks, may be allowed a foot.

Fig. 71 shows the ground plan of the above, in which *L*, denotes the laying apartment; *H*, the hatching room, each 6 by 20 feet; *n, n, &c.*, nest boxes for laying, 14 by 14 inches, and 10 inches deep; *o, o, &c.*, nest boxes for the sitting hens, of the same size; *l*, a ladder, or steps, leading into the loft; and *s*, a stove for warming the apartment, if desirable, when the weather is cold.

Fig. 72 shows a transverse, or cross section, of the building, from the bottom to the top, with the internal arrangements. *L*, denotes the laying apartment, and *H*, the hatching room, divided in the middle by a partition; *n*, the nest boxes, resting on tables, three feet above the floor or ground; *b, b*, boxes, or troughs, containing water, grain, brick dust, sand, ground oyster shells, or other materials for the convenience of the fowls; *d*, an aperture, or door, three feet above the ground or floor, for the ingress and egress of the fowls; *a*, a lattice window, three feet above the floor or ground, for the admission of fresh air to the sitting hens; *R*, the roosting place, or loft, shut off from the laying and sitting apartments by the ceilings, *c, c*; *h*, a hole, or opening in the ceiling, for the escape of the air below into the loft; *v*, the ventilator at the peak of the roof; *p*, the roosting pole, or perch; *t*, a trough, or box, for retaining the droppings, or dung.

EXPENSE AND PROFITS IN RAISING INDIAN CORN.

THE following interesting statement on the cultivation of Indian corn, by Levi T. Marshall, of Vernon, Oneida county, we find in the Transactions of the New-York State Agricultural Society, for 1848:—

The land upon which the following crops of corn grew was upon the flats of the Shenandoah Creek, six miles below its head waters, and being situated about 100 feet below the summit level of the Chenango Canal. The soil a brown mould, in good condition, with a previous cropping of meadow hay for thirty successive years. Corn planted 23d of May, upon the inverted sod, in hills three feet apart. One acre plowed in the spring, the

other in the fall; the one plowed in the spring producing five bushels the most. Four and five kernels dropped in the hill, that number being designed to be left standing, and appeared above ground in about five days after planting. The eight-rowed yellow variety planted, with eight quarts to the acre; hoed twice, the cultivator also having been passed twice in a row previous to each hoeing; stalks topped the 20th September, yielding two loads to the acre. The crop was not planted with particular reference to obtaining a premium, and the subscriber not being timely informed of the rules of the society as to the time of shelling and mode of management, it was sold, to be delivered by the 1st of December, and accordingly shelled from the 25th to the 30th of November, it then being dry and suitable for grinding, and the number of bushels estimated, by weight, it being sold in that way, and yielding 123 bushels and 20 pounds upon two acres of land. Sold at 50 cents at the Vernon Centre Mills.

EXPENSE OF CULTIVATION.

Two days' plowing, . . .	\$3.00
One day's harrowing and marking, . . .	1.50
Four days' planting, . . .	3.00
Twelve days' hoeing, . . .	9.00
Two days' topping stalks, . . .	1.50
Ten days' harvesting, . . .	7.50
Four days' shelling, . . .	3.00
Drawing to market, (two miles,) . . .	3.00
Seed and surveying crop, . . .	2.38
Interest on land, . . .	7.00

Total expense, . . . \$40.88

173 10-56 bushels, at 50 cts., . . \$86.68
Stalks, . . . 10.00

\$96.68
Deduct expense, . . . 40.88

Profit, . . . \$55.80

EXTRAORDINARY YIELD OF BARLEY.

From the State Transactions, we copy the following statement of a field of barley, by Melas Adams, of Martinsburgh, Lewis county, N. Y.:—

The previous crop was peas, sowed on sward land, on which 20 loads of unfermented yard manure was spread previous to plowing for the crop. The manure did not extend over the whole field. The field has lain in meadow 11 or 12 years.

The soil has not been analyzed, but to give it a common name, I should call it a clay loam with a stiff retentive subsoil. Location in East Martinsburgh a mile west of the Black River, and on an elevation above the bed of the river of 135 feet.

Applied 10 loads only of manure on a part of the field which received none on the pea crop, and spread evenly over the ground before plowing for the barley. Sowed on the 2d of May 2½ bushels of the two-rowed kind to the acre. Harvested the crop on the 4th of August, and put it in cocks the same day, where it remained six days, when it was drawn to the barn; threshed the whole during the present month by putting a pile on the barn floor and treading out with horses—the old Dutch

fashion—and cleaned in the ordinary way with fanning mill. The yield was 130 bushels per acre.

CR.

By 130 bushels at 50 cts., . . .	\$65.00
By straw,	4.00
	<hr/>
	\$69.00

EXPENSE OF CULTIVATION.

One day's plowing at \$1.50, . . .	\$1.50
One and a half days' harrowing and rolling at \$1.50,	2.25
Two days' harvesting,	2.00
One day's carting,	2.00
Half day's hauling manure,	0.75
Sowing 25 cts., five and a half bushels seed at 62½ cts. per bushel, . .	3.69
Six days' threshing and cleaning at 75 cts.,	4.50
Interest on land at \$50,	7.54
	<hr/>
Total expense,	\$24.23
Profit,	\$44.77

MR. ROBINSON'S TOUR.—No. 9.

Louisiana.—There are a good many small rice farms along this coast of the river, on which the seed is usually sown broadcast, in March or April, and flooded in June or July, three or four inches deep, if the state of the river admits; and if it does not, it grows dry, as there is not energy enough in the Creole population, who plant rice, ever to fix any kind of machinery to elevate water to flood the rice fields. Mr. Andrew Knox, a very intelligent gentleman, with whom I spent a night, is of opinion that all of the back lands might be very profitably cultivated in rice, by using windmills to drain the land, and the same cheap power to flood the fields, when needed. Some plant in drills, and cultivate with plow and hoe. This produces the best crop, but requires labor, which is very objectionable among "white folks." The rice sown broadcast has to be wed with sharp hoes or knives. The crop is cut and stacked like wheat, in September, and is threshed, or trodden out, now and then. It is sometimes winnowed with a fanning mill, but oftener with a blanket, somewhat after the manner of the old Dutch fan. The hulling machines are equally primitive. A mortar and pestle being the most common. An average crop is about 30 bushels of paddy to the acre, weighing 60 lbs. to the bushel; and is worth about 75 cents a bushel, or 2½ cents per pound, clean.

Four years ago, Mr. K. bought 1,240 arpents, for \$2,100, without fence or buildings—an old-field pasture—340 arpents cleared land—700 tillable—800 now in wood. It cost him \$20,000 and one year's labor with 35 hands, (except making a small crop of corn,) to get ready to make sugar. But he has so renovated the old fields, that he made last crop, from 240 arpents of cane rolled, 325 hogsheads of sugar, and the unusual quantity of 85 gallons of molasses to the hogshead, (27,625 gallons,) worth 18 cents a gallon, and sugar four cents per pound will make \$15,210, while the value of the place has increased so, that, compared

with late sales in the vicinity, it is worth \$100,000. This is certainly much better than letting such land lie an idle waste. His annual expenses are about \$6,000, as he buys nearly all his corn, as well as meat. He works 24 mules and 6 yoke of oxen, and uses good tools. Notwithstanding he has plenty of timber, he has ordered wire to fence his front, because he thinks it will be the cheapest. Cypress pickets, or rails, for post and rail fence, with which nearly all fences are built, are worth from \$5 to \$7 a hundred, and posts \$10, and will not last over ten years. So that it is easy to see that wire is the cheapest. I am glad to perceive that Messrs. Allens are prepared to furnish it to order in any quantity; as I think that, as soon as its value and cheapness as a fence becomes known, the whole coast will be fenced with it.

To show what judiciously-applied labor is capable of producing, I will state a few facts relative to the plantation of Mr. Wm. Polk, a very enterprising and intelligent young man, from Tennessee, whose place is about 24 miles above New Orleans, on the "west coast." He bought the tract about four years ago—an old Spanish grant—of some 7,000 arpents, running back near nine miles, much of it on a ridge, upon which cattle can be enclosed by a wire fence, back of the cultivated lands. Upon this tract, he intends to put a large stock of cattle, that will live upon the cane. He found upon the place an old dwelling, the shingles of which, though still sound and nailed with wrought nails, attest its age. There were about 310 arpents of cleared land, part in rice field, and balance old-field pasture, with but one ditch upon the place, the whole not worth the annual taxes. In 1846, he broke up the land deep, with four and six mules, by incredible hard work, and planted corn, and made about half a crop; which some of his neighbors said was because he plowed his land so deep that he had spoiled it. But he said, it was because it never had been plowed so deep before, and could not be expected at first to produce so well; and, secondly, because he had not yet got it perfectly ditched. In the winter of 1846-7, he gave it another thorough plowing, planted cane, and completed the ditches, laying it into squares six rods on a side, having a fall of twelve feet in 105 arpents back from the river. The next crop made him 445 hogsheads of sugar, besides seed cane. In 1848, he had 320 arpents in cane, 285 of which he rolled, and made 525 hogsheads of sugar, and about 36,000 gallons of molasses, working 55 field hands, (90 negroes in all,) 37 mules, 10 carts, 3 wagons, 14 double plows, and no oxen. His sugar house cost \$17,000, besides the labor of his own hands making brick and doing most of the work, estimated at \$9,000 more. Much of the worst of the ditching was done by hired Irish laborers. He feeds his field hands 6 lbs. of pork and 12 quarts of Indian meal a week, besides molasses, sweet potatoes, and other vegetables; and, although they were from the north, he finds that they keep healthy and strong, upon this high feeding, without complaining of lassitude, as is usual among those brought here while acclimating.

He confidently expects to derive a profit from grazing cattle upon his extensive back lands, and

selling them for beef at New Orleans. Some of those who thought he was "spoiling his land by plowing it so deep," now look with wonder upon his success. There are several persons above Mr. P., who turn their whole attention to raising cattle; and, in the course of my drive, I saw, at one place, a very unusual appendage to the cattle yard. It was a well-constructed rack. I also saw a good many hogs, and some of them as mean as well could be conceived of.

Upon Mr. Thomas Maye's place, I saw the effects produced by a large crevasse some 40 years ago. The whole surface, where it run, is in ridges, some of them six feet high, made by deposit of the earth carried in solution in the river water. This is so great that it has been thought practicable, by some persons, to fill up the swamp back of New Orleans, by letting the river flow through it, which is to be done by confining it within proper bounds.

Mr. M. lost his sugar house and 160 hogsheads of sugar by fire, last fall, from sparks falling upon the dry roof. To prevent similar accidents, let a small pipe be attached to the force pump and carried up and along the ridge of the roof, letting out little jets of water every few feet. This simple and cheap plan would have kept the roof wet all the time, and prevented the present great danger, as well as several others, which have occurred heretofore, and are likely to occur again. I do not think the expense would exceed \$25, which might soon be saved in insurance.

Blackberries, plums, and peaches, are now in bloom; Indian corn is planting; and oats about three inches high. The latter will be good to cut green in March, or for seed in May. Corn is planted from January till May. Figs grow so abundantly upon Mr. Maye's place, that his negroes have all they can eat, which he considers very healthy.

The style of dwellings here is a story and a half—the half one at the bottom—though sometimes it is high enough for use and is paved with marble or tiles—a front and back gallery, often all around—all the doors and windows just alike; that is, two inner doors opening from the centre the upper half glass, and two outer ones of wood, hung with great wrought-iron hinges big enough for a door 16 feet wide, instead of 16 inches, fastened with large iron hooks.

In warm weather, the whole are open and a curtain fills the space. One of the handsomest and most luxurious gardens that I noticed, is that of Valcour Amie, who is also one of the largest planters, and makes refined loaf sugar. His house is more modern and splendid.

The entrance of the houses here is nearly in front. You drive in upon one side of the garden and into the back yard, among a general assortment of chickens, young negroes, turkeys, ducks, and dogs.

Governor Roman's garden is another enchanting spot. Judicious taste, skill, wealth and climate combined, makes a scene here, which, if it could be exhibited in January in New York, would command a world of admiration.

Mr. James M. Lapice is a large planter, who also refines all his juice into loaf sugar, &c. He is the only one that I know of, who regrinds his

bagasse in a separate mill. He has two three-roller mills, set 12 feet apart, with a carrier between, so arranged as to reverse the position of the bagasse, in order that it may enter the mill in a different manner from that which it came through the other rollers. By this process, he gets about 75 of the 90 per cent. of juice contained in the cane, and makes bagasse so free of saccharine matter, that the acidity arising in the decomposition is not great enough to injure the land to which it is immediately applied. It is ground, or broken up much finer than the common bagasse, and is spread out about six inches thick, at once, upon cane stubble that is to be broken up. This serves to keep the land loose and mellow. This method is the same as that practised upon grass, &c., called "Guerneyism." In the spring, he sends the hoe hands to rake off the top of old cane rows, and plant a hill of peas every 12 or 15 inches. These grow and cover over the ground completely, and the next winter, together with the now-rotten bagasse, are turned under with a heavy plow and planted again in cane, and produce a crop greatly increased in value. This process also serves to keep down the coco, in consequence of being so smothered a whole year, that the cane gets up and ahead of it, and then keeps ahead. Mr. Lapice's rule, in relation to team, is different from most planters. He works 120 hands in the field and 120 mules or horses, besides 40 oxen, or one mule or horse to every hand, and never works them but half a day at once. The set that go out in the morning are brought up at noon and turned into a pasture, of which he has 600 arpents, and a new set are all ready in the stable, having been previously fed, to go to work in the afternoon. At night, those at pasture are taken into stable and fed ready for morning and the others turned out. Thus they are never fed hot, but eat less corn, and are less sick, wear longer, and can be driven harder, while at work. He makes and uses 18,000 bushels of corn a year; has in use 100 plows; 20 large iron-axle carts, with brass boxes. Average crop of sugar about one million pounds.

January 24th, 1849.

THE MANNER THE WOOD PIGEON OBTAINS ITS FOOD.—The wood pigeon has a weak bill; but Nature has provided her with very strong wings; when the flock, therefore, settles upon the lying portion of the wheat field, instead of breaking off the heads and carrying them away, (as is done by the rook,) they lay themselves down with their breasts upon the grain, and using their wings as flails, they beat out the "prickles" from the heads, and then proceed to eat them.—*Burn Murdock.*

DIRECTIONS FOR RIDING.—Keep your head up, chin down, chest forward, shoulders back, elbows in, hands down, back in, belly out, feet forward, thighs fixed, knees in, legs close, heels down, and toes in. Trot two hours a-day without stirrups, loins loose, seat firm, hand tight, horse and rider well balanced, and then time and perseverance may make you a horseman.—*Bell's Life.*

AGRICULTURAL STATISTICS.

A DESIRE faithfully to discharge the duties devolved on this office in relation to agriculture, prompts me to seek impartially from persons of known experience and research, the best information on the several topics embraced in this circular, and upon such others as may, in the judgment of practical men, contribute to the benefit of that vitally-important branch of our national industry.

Comprehending, as this circular necessarily does, a variety of subjects, with all of which no one person can be supposed to be practically familiar, it is presumed that each one to whom it may be addressed will confine his observations to such matters as have come under his own experience. Such information it is the purpose of Congress in this mode to collect and distribute for the common benefit of the agricultural community, and it cannot but be, in the aggregate, of enduring value.

Excluding mere estimates and local details of weather and crops, which may be found in the able agricultural journals of the country, the design of the annual report, to which you are invited to contribute, is to bring to light and register in a permanent form, important facts and discoveries, the results of actual experiment, which might not otherwise become so soon nor so widely known.

It is likewise intended to constitute a repository of agricultural statistics, founded upon official and other reliable data, which may serve as authentic bases for the use of the politico-economical inquirer and legislator.

Whatever may have been tested and found new and useful in practice, together with important agricultural statistics, will be acceptable; especially suggestions as to the introduction of such new objects in the way of machinery, animals, processes, or plants, as may tend to the profitable diversifying of the application of labor and capital to the all-important science of cultivation.

With this brief explanation of the objects contemplated by Congress, and leaving to your discrimination to judge how you may best and most conveniently assist in their accomplishment, I beg leave to tender in advance, for any contributions you may be pleased to make, my respectful acknowledgments.

THOMAS EWBANK,
Commissioner.

United-States Patent Office, }
Washington, July, 1849. }

The Commissioner of Patents, in execution of acts of Congress, desires to procure information from planters, farmers, and others, on the following, and any other points that may occur to you connected with agriculture:—

Wheat.—Your experience as to varieties—difference in weight, and of time in ripening—their enemies and diseases—soil and manures best adapted to.

Oats.—What varieties have you tried, and with what results, particularly as to time of ripening—what their estimated value as compared with corn as food—is the cultivation of the oat becoming more or less popular, and for what reason?

Rye.—Have you knowledge of any new and valuable variety—to what uses is it applied—have crops diminished of late years, without any apparently corresponding diminution in the fertility of

the soil, and to what influence is it supposed to be attributable?

Barley.—Have any new varieties been tried, and with what results—to what uses is this grain applied in your state—if not cultivated, is it forbidden by your soil and climate?

Indian Corn.—What varieties most esteemed, and for what reasons—what the difference in time of ripening—is it liable to change of character and qualities according to soil and climate, and other influences, and your observation on that point—give the estimated value of the shuck as compared with the blade, and of both as compared with good hay, weight for weight—what is the value of green corn for soiling cattle, and especially for producing milk—your experience as to feeding grain, whole or ground, cooked or raw.

Rice.—Variety cultivated—describe any new and valuable process for its cultivation or preparation for market.

NOTE.—As to all these grains, please to state the cost of production and usual weight, and the probable average per acre, and actual aggregate product, if known, of each in your state—whether the average product per acre has increased or diminished—whether the weight per bushel of the various grains is fixed by law in your state, and what weight is prescribed for each.

Hay.—State the comparative value as food for stock, of clover, Timothy, and mixed hay—the grass seeds preferred in laying down meadows—the average yield per acre; describe any new process in curing. Have meadows been irrigated in your state, and with what effect?

Peas.—For what purpose cultivated in your state—for food, or for improving the soil—estimated value as food for stock compared with Indian corn—the most esteemed variety for field culture—average product per acre—value of haulm, or vines, compared with other fodder—average price per bushel in the last year.

Root Crops.—Irish and sweet potato, turnips, carrots, beets, mangold wurtzel, artichoke, and other varieties—comparative value—cost of production—weight per bushel—average per acre, and aggregate product for your state.

Cotton.—Average yield per acre and per hand in your state—aggregate yield of the whole state for 1849—describe new varieties and process of cultivation—manures best adapted to—cost, per pound or bale, of production—freight, charges, commissions, &c., paid by the planter.

Sugar.—Whether of cane or maple—the product per acre—describe any new process of cultivation or manufacture—variety of cane cultivated—its enemies and diseases—cost of making sugar—freight, charges, commissions, &c., paid by the planter.

Hemp.—On this head give any information that you may deem valuable and new, as to varieties, processes of cultivation, and preparation for market—soil and manures best adapted to—cost of production.

Butter.—Quantity made in your state—average annual produce per cow—are cellars or spring houses preferred?

Cheese.—Same questions.

Horses and Mules.—Number raised in your state

—average value of each—comparative value for agricultural purposes—where is your market for them?

Number of Horned Cattle in your state—average value of, at three years old—where driven to market—cost of keep per head per year—which of the improved races is preferred?

Sheep Husbandry.—What the prevailing races—what the condition of this branch of industry—amount of wool clipped in the year, and average weight of fleece of different races—cost of keeping sheep through the year per head—where your markets—what your system of selling—have you wool depôts, and are they found advantageous for wool grower and manufacturer—what number killed by dogs in your state?

Hogs.—Average weight at a given age—average weight consumed per head—proportion of live to net weight, and cost of production per pound.

Rain.—Time and degree of highest and lowest range of thermometer, and the mean temperature of the year; also inches of rain water in each month, and aggregate for the year.

Labor.—Cost of, with and without boarding, and cost of boarding.

Tar and Turpentine.—Quantity and value of, produced per hand.

Lime, Plaster, and Other Fertilizers.—If used as an improver in your state, how much is thought to be best per acre, and how often applied?

Orchards, Fruits, Transplanting of Trees, &c.—Information on these and kindred matters, will be of universal interest.

Cultivation of the Vine, Grapes, and American Wines.—Communications on this subject are particularly solicited.

Such of our readers as have it in their power will please to answer as much of this circular as is convenient, after procuring the requisite information, and before the 1st of December; and, in the mean time, please to name any one to whom the circular may be sent in the hope of fuller information.

GREEN MANURES.

In practical husbandry, cases often occur where poor, light, and sandy soils, as well as meagre clays, may be enriched by cultivating cheap, quick-growing vegetables, and plowing them under, instead of forming them into heaps near by, to be composted, with earth, muck, or lime, and then returned to the field at a considerable expense for working, carriage, &c. This is now commonly called "green manuring;" the principle being to enrich the soil, by setting a quick-growing plant to draw organic matters from the air, and inorganic from the subsoil, below the reach of the roots of ordinary plants; and then plowing it into the soil.

Peaty soils and lands newly cleared generally do not require this kind of manuring, as they are already full of vegetable matter, and want only lime to neutralise the acids contained in them, and nitrate of soda or sulphate of ammonia to supply them with nitrogen. Poor, clayey soils, however, are much improved by having their subsoil burnt, or rather charred, with peat, spent tan bark, sawdust, or any other cheap kind of fuel. And as vegetable matters work sour, the land, before plowing them under, should receive cheap, inorganic

dressings, such as salt, lime, plaster of Paris, marl, &c., which, when added, help the growth of the plants, and promote their drawing other matters from the air as well as the soil.

The vegetables grown for the purpose of green manures should have the following properties:—They should flourish on poor soils; require little labor in cultivation; have cheap seed; be of quick and sure growth; stand the climate and vermin; run their roots deep; bring up from the subsoil what the succeeding crops require; smother weeds; and produce a great quantity of stalks, or foliage, which will easily decay in the soil, without leaving any residue hurtful or pernicious to future growth.

Among the plants best known for this purpose, and which appear to be most suitable for this country, we would note the following:—

1. *Red Clover.*—This plant requires a rich, or moderately rich soil; little labor in cultivation; seed cheap; stands the climate and vermin well; is rapid in its growth; abundant in its yield, say from two to eight tons per acre, when green; roots penetrate from eighteen inches to two feet and a half into the soil, and are equal in bulk to about one half of the stalks and leaves. Every 1,000 lbs., when dry, contain 4 lbs. of potash, $1\frac{3}{8}$ lbs. of phosphoric acid, and $3\frac{3}{8}$ lbs. of nitrogen. If plowed under, when in flower, as green manure, it is rapid in its decay.

2. *Rye.*—This will grow on poor, dry, light, sandy or gravelly soils; is cultivated with little labor; seed cheap; stands the climate and vermin well; comparatively slow in its growth; abundant in straw; but its roots do not penetrate deep into the ground. Every 1,000 lbs. of the dry plant contain 4 lbs. of nitrogen, but no appreciable quantity of potash nor phosphoric acid. It may be plowed under late in the spring for fertilizing the soil.

3. *Buckwheat.*—This plant will grow on a dry, sandy, gravelly, or peaty soil; requires little labor in cultivation; seed cheap; stands the climate and vermin well; is rapid in its growth, particularly so in connexion with saltpetre and plaster of Paris; produces from two to four tons of roots and green herbage to the acre; but the roots do not penetrate deep into the soil. Every 1,000 lbs. of dry roots and tops, cut in full flower, contain $1\frac{1}{2}$ lbs. of potash, $\frac{7}{10}$ of a pound of phosphoric acid, and 2 lbs. of nitrogen. Plowed under, as a green manure, it is somewhat rapid in its decay.

4. *Spurry.*—This plant will grow on a poor, dry soil; requires but little labor in cultivation, and a small outlay for seed; grows in about two months; will yield about two tons of herbage per acre; and its roots run about fifteen inches deep. Every 1,000 lbs. of the roots and tops contain 9 lbs. of potash, $1\frac{1}{2}$ lbs. of phosphoric acid, and 4 lbs. of nitrogen. When plowed under, as a green manure, it decays rapidly in the soil.

5. *White Lupin.*—This plant has been extensively used in Italy, for plowing under, from the time of the Romans, and has been adopted with great success in Germany, for the same purpose, not only on poor lands, but on soils in high cultivation. It is adapted to all soils except those which are limy; is cultivated with little labor;

seed somewhat dear; stands the climate and vermin well; rather rapid in its growth; will sometimes produce ten or twelve tons of herbage per acre; and its roots penetrate to the depth of two feet into the soil. Every 1,000 lbs. of the dry plant contain 1 lb. of potash, $1\frac{1}{4}$ lbs. of phosphoric acid, and $4\frac{3}{10}$ lbs. of nitrogen. Its stalks are somewhat slow to decay, when plowed under as a green manure.

Another method of obtaining vegetable matter for composting in the manure heap, or for plowing under the soil, consists in cultivating, near at hand, quick, rank-growing plants, on some richly-manured spot, in order to avoid the expense of collecting and carting such matter from a distance. Among the perennials of this class, may be mentioned the Jerusalem artichoke, tansey, prickly comfrey, and Bokhara clover, which throw up a heavy mass of stalks and foliage, that may be cut several times in a season, and are rich in nitrogen and fertilizing salts.

Tansey, it is stated, is satisfied with poor, hungry soils; stands all weathers; suffers little from vermin; produces a great mass of foliage, say 24 tons per acre; extends its roots from two to four feet into the subsoil; will last ten years without further expense; will sow itself again; and may be cut twice a year. One acre, when cut in the blossom, will "green manure" two acres for two years, or will keep four acres of hungry soil in a fertile condition from year to year.

The *prickly comfrey*, it is stated, has produced 90 tons per annum, of green foliage, to the acre!

Among annuals, that possess the above-named properties, the pindar, (peanut,) the cow pea, and white mustard, have particularly been recommended to be cultivated as a cheap manure. In fact, any other quick-growing plant, or shrub, which flourish naturally upon waste places, may be increased by cultivation, and contribute to fertilize the soil. They should be cut when in blossom, as they then generally yield the heaviest and richest produce; but before seeding, in order that they may not be carried into the tillage lands as weeds. If the land is under crop at the time, they can be heaped in compost, as a substitute for the dung heap; or, if the land be bare, they can be plowed under at once.

EXHIBITION OF STRAWBERRIES.

The following is the report of the committee, as published at Rochester N. Y.:

Matthew G. Warner, Esq., presented thirteen varieties of strawberries, viz: Hovey's Seedling, Columbus, Ross' Phoenix, Black Prince, Boston Pine, Burr's Old Seedling, Hudson, Rival Hudson, Corse's Seedling, Crimson Cone, Burr's New Pine, Early Scarlet, Austrian Scarlet; the Hovey's Seedling being entitled to the society's highest premium for the best quart.

Mr. Lewis Burtis presented Hovey's Seedling, fine specimens, entitled to the society's premium for second best quart. Matthew G. Warner, Esq., entitled to society's premium for the largest number of varieties, and best grown pint of each.

Messrs. Ellwanger & Barry presented Myatt's Eliza, Boston Pine, Early Scarlet, Black Prince, Burr's Seedling, and eight new seedlings, worthy the thanks of the society, being a larger number of

new seedlings than has been offered on any previous occasion. The committee think a premium ought hereafter to be offered for seedling strawberries of superior merit.

Mr. Charles Paulk, of Honeoye Falls, presented seven varieties of strawberries—Bishop's Orange, Black Prince, Prolific Hautbois, Stoddard's Alpine, Hudson's Bay, Boston Pine, and a new seedling.

Messrs. Bissell, Hooker, and Sloane, presented Burr's New Pine, Columbus, Burr's Old Pine, Black Prince, Cushing, Early Scarlet, Hudson, Rival Hudson, Boston Pine, and the celebrated Hovey's Seedling.—*Rochester Paper.*

SMALL vs. LARGE CALVES—REPLY TO REVIEWER.

It is Reviewer that has to explain his language. He first made use of the term, "a runt of a calf," if he calls a *small calf* a runt. I call that calf the "good one," and not the "large calf." It is an invariable rule with me to kill a calf, if large, when first dropped from the cow. I have never yet seen such a calf grown up to a good animal, and I will venture to say that Reviewer never saw a *well-bred herd* produce *large calves*. It would be positive proof to me of their mongrel pedigrees. I could show him instances from my own practice, sufficiently convincing to any man.

This season, I saved a calf, when first dropped. I knew its pedigree, and felt perfectly safe in raising her. I will risk my judgment by saying she will make the best of ten half bloods raised with her, all sharing equal feed. I will refer Reviewer to any "scientific breeder," for proof of this statement. If the butcher's knife caught all those large calves, there would not be so many mongrel cattle in the country; for it is those that produce them. I mean to be thoroughly understood, that I would not raise a *large calf*. I do not mean a calf that has been forced by its mother's side, and with meal; but the appearance of the calf the day it is born.

I consider the Herefords the best breed of cattle in the world, for all purposes. The Devons second, which I think is sufficient proof of my not being a shorthorn man. WM. H. SOTHAM.

Black Rock, N. Y., August 5th, 1849.

Our readers must bear in mind, that friend Sotham is always "death" on the shorthorns. They will therefore excuse his placing them as *third-rate* among the improved breeds. Others hold different opinions; and, although he seems disposed to war against them, even to "the knife," still, we think, good shorthorns are destined to live yet a little while longer, and flourish. At any rate, their breeders, and no small portion of the public, seem to be so *obstinately* set in the belief that they possess *first-rate*, instead of *third-rate* merits, that we doubt whether they will allow them to be utterly exterminated very suddenly, by the thrusts of our belligerent friend. But to the point. The three breeds of improved cattle, Hereford, Devon, and shorthorns, have each their different merits, particularly suited to particular localities and requirements. It is for the farmer to study these peculiarities, and make up his mind which is most suitable for him, and then choose.

Ladies' Department.

APPLE-PARING BEE.

A MUCH longer time than I intended has passed, since I promised to give your readers an account of our apple-paring frolics; but some untoward circumstance has occurred to prevent it, or to turn my attention to another subject when I sat down to write.

As I wish to be useful, as well as amusing, I will begin at the beginning, or as near as I can without encroaching upon the nurseryman's province—the management of the trees. On that subject, prudence bids me be silent—so we will suppose the orchards are just what they should be. I will only *hint* that, when it can be done without injury to a ground crop, the hogs should be allowed to run in the orchard for a month or six weeks after the fruit has set, to eat all that has been stung by the apple millers, as soon as it falls, to prevent the larvæ from getting into the ground; whence they will surely issue next spring to destroy another crop. It is well, too, to have the trees frequently shaken gently, in the course of the summer. Few apples fall but the wormy ones, and those prematurely ripe, which only burden the trees, and prevent the full development of the best fruit.

After the hogs are turned off, as the full-grown apples begin to fall, it is pleasant work for the children to gather them. The best may be taken to market, and sold as early apples. Others may be cooked for daily use; and how delicious those same "early-apple" pies and sauces are! How it makes one's mouth water to think of them! The surplus are pared and cut for drying; either spread on boards on sheds, or trestles in the sun; good care being taken to cover them at night to keep off the dew; or they are strung on packthread, and hung in festoons from one upper window to another, on the sunny sides of the house—puzzling travellers unacquainted with the custom, who cannot imagine what those numerous, queer-looking "ornaments" are, or what can possibly be their use. I do not recommend this last way of drying any fruit, as there is apt to be left a hard lump where the string passes through. When they are prepared in this way, a basketful or two at a time, the trouble is unheeded, as it takes but a few spare minutes each day, and something is daily gained towards the stock of winter provisions. In damp weather, and later in the season, when they are to be dried in the oven, the apples should not be cut very thin, as they become tasteless and tough. If the small ones are divided into four, and the larger into six pieces only, the fruit, when cooked, will be more tender, and have a richer flavor.

When apples are in unusual abundance, or are cultivated on a large scale for exportation, or sale, it is very common for the men to have a "bee" in the morning, to gather, and cart them home, where they assort and spread them out to "sweat," before they are packed in barrels, buried in garden heaps, or otherwise stored away. Everybody joins in the "gathering in," and a rare frolic it is to the happy children to be allowed to help or hinder, as the case may be—girls and boys, down to the "todlin wee things," that "may be ane, or may be ither;" for all the difference in their appearance is made by

the frocks and aprons, sunburnt faces, and short, curly hair.

But I have delayed too long, and must hasten to the frolic—the "great apple-paring bee," which always takes place on the evening preceding the day appointed for boiling apple butter; a work of no small importance to our northern farmers. From these select and well-arranged parties, no affectation of refinement need keep away even the boarding-school young ladies, nor the college students, who might be horrified at the suspicion of their joining in a "corn-husking frolic," or a "log-rolling bee." Here neighbors, whose parents and grandparents have been friends from generation to generation, meet on equal ground. While all are engaged in contributing to the happiness of others, the cheerful conversation, the merry laugh, and the comic song are unrepressed by chilling rebuke, or morose looks. Not the slightest approach to boisterous mirth or rudeness is tolerated. It is no unusual thing, when a party is smaller than was expected, or if some particularly entertaining guest has failed to come, to introduce a book, and beguile an hour or two by reading aloud.

Among our young people, these meetings are still looked forward to with the most pleasant anticipations; and I hope the time is far distant when the beautiful simplicity of manners in our little community will be changed, and we become too "refined" to enjoy them. I shall not live to see it; for as yet there is no symptoms of any such unhealthy change. I love not to see old heads on young shoulders. I do love dearly to see young people enjoy themselves, as the young only can.

In the house to which they are bound, everything has been prepared for their reception the day before; and as soon as the early supper has been hurried away, the carpet in the common room is taken up; or where dancing is not allowed, it is carefully covered; but most generally the assembly is held in the kitchen, which, among industrious farmers, is always the largest room. The tubs and baskets of apples are brought in and arranged around the room, in front of the chairs. The large logs are piled on the fire in the great chimney, in the ample corners of which the old people have taken their seats, expecting and receiving all proper deference and respect from the younger members of the party.

The visitors seat themselves, as they arrive, and, without ceremony, or much choice of places, they begin to work, each of the women with a coarse towel spread under the dish of apples, to protect the snowy-white or neat cheek aprons from spot or stain. The knives are sharp as razors, the work goes on rapidly, and, as the apples are pared, they are put into baskets or pans. When enough are done, two or three of the more elderly boys begin to cut and core them; and, with a fair start, one expert hand can keep half a dozen busy paring for him, unless they employ the "patent apple parer," which reverses the matter in fine style, and takes the skins off as fast as half a dozen pair of hands can cut and core. I do not think I quite like this labor-saving machine at an apple paring; it does the work too soon; but it is a useful little thing that should find a place in every kitchen. E. S.

Eutawah, August, 1849.

EPIGRAM.

ABOUT twenty years ago, it was common to trim straw bonnets with artificial wheat and barley, in ears, on which the following lines were written :—

Who now of threatening famine dare complain,
When every female forehead teems with grain?
See how the wheat sheaves nod amid the plumes;
Our barns are now transferred to drawing rooms;
And husbands, who now indulge in active lives,
To fill their granaries, may thresh their wives.

CONSERVE OF PEACHES.

PAKE and cut, or split your peaches, and to each pound of fruit, put three quarters of a pound of best loaf sugar; boil them until they are clear; take them out, drain slightly, and spread them on dishes to dry; boil, also, the syrup until it thickens, and each day add a portion of the fruit, which must be exposed to the sun, until it has all been absorbed, and the fruit is dry. Then sprinkle sugar at the bottom of your jars, and put alternate layers of peaches and sugar until they are full; stop close, and they will keep good a year.

Peach Leather is made by boiling pared peaches till they form a thick pulp. Spread on dishes; dry in the sun till it becomes tough; put it into a dry place, and it will keep well. When wanted for use, soak a portion for a night, in just water enough to swell and soften it; sweeten with good brown sugar, and make pies of it. Quinces, preserved in the same way, are also extremely nice for winter desserts.

Boys' Department.

AGRICULTURAL CHEMISTRY.—No. 15.

I HAVE previously informed you that different species of plants require different kinds of food, and in my last letter, I told you that a soil usually becomes so impoverished, after a few years' tillage, as to be unable to produce a medium crop without the aid of manure, or the advantage of fallow. Now, if these views are correct, it follows that, if the same kind of grain be put on the same field for several years in succession, the soil will be likely to become almost totally exhausted of some of the constituents which this kind of plant requires; and this exhaustion will manifest itself in its sickly appearance and diminutive yield.

Here theory tells us it would be to our advantage to have our various kinds of produce succeed one another, so that the same ingredients need not be drawn from the soil every year; and the experience of ages has led to the same conclusion. Indeed, there is no fact better established in farming, than that the same kind of grain will not thrive for a succession of years on the same ground, except in some rare instances, where the soil is excessively rich. Land may be forced, however, by copious manuring, yearly, to sustain a luxuriant growth of the same crop every year, for an indefinite period; but this system, in most cases, would be an unprofitable one. We see, in the growth of forests, an illustration of the principle of rotation, on an extensive scale. When a forest of any particular kind of trees is cleared away, if left undisturbed, it will be succeeded by a growth of another species; and we are informed by those who have given attention to the subject, that Nature has established a regular system of rotation for forests, and deter-

mined in what order the various species shall succeed each other. On the farm which I occupy is a small wood lot, from which the largest trees, consisting mostly of oak, have been removed, and now a thick growth of pine is springing up, which bids fair to monopolize the whole ground in a few years. Another fact, well known among nurserymen, is, that a young tree will not flourish, if transplanted to a spot previously occupied by an old orchard of the same kind.

Such illustrations of the principles of rotation have been long observed, and if science could not explain them satisfactorily, there would be some apology for adopting an explanation founded on conjecture. A theory which has had many advocates, both learned and unlearned, is, that more or less excrementitious matter is discharged from the roots of plants that is afterwards poisonous to the species that produced it, though not injurious to others. I have previously alluded to this theory, and told you it was not supported by sound reasoning. It was formed before science had advanced to its present state, and it seems almost unaccountable that so many should still adhere to it, when the phenomenon it was formed to account for can be explained in a far more reasonable and satisfactory manner. When one side of a question is supported by arguments based on conjecture, and the other by facts, such as science has unfolded, we ought not to hesitate long which side to choose.

Let us examine the theory a little more closely. It supposes that plants absorb, by their roots, certain ingredients which are not adapted to the purposes of nutrition, and which, after passing through their circulation, are again returned to the earth. Now, admitting this to be so, though we have no positive proof that it is so to any extent, we are still at a loss to understand why this excretory matter should be more poisonous after being returned to the soil, than it was before entering the circulation. Nothing short of a magical change, wrought upon it, during its passage through the vessels of the plant, could render it noxious to the species that produced it, but harmless and inoffensive when absorbed by the roots of any other species. The theory will not bear inspection, and, in fact, can only be regarded as mere hypothesis. But when we consider, 1st, that the same kind of plant always requires the same kind of food; 2d, that no two species extract the same ingredients from the soil in the same proportions; 3d, that if a soil be exhausted of any one ingredient essential to a plant, it is incapable of again sustaining and perfecting that plant until this ingredient is restored; and, 4th, that a few months are insufficient for its restoration by natural causes, we find an easy and ready method of explaining the advantages of rotation, without adopting the theory that supposes every plant to elaborate in its own system a substance which is poisonous to its own kind.

The correctness of these views will be still more apparent when we examine the chemical constitution of such plants as are most commonly cultivated. We find that in some of them, lime appears to be the most important inorganic ingredient; in others silica; and in others potash. As these are the constituents which plants draw most liberally from the soil, and as they are required in widely-different proportions by different species, it is of practical advantage to

know what percentage of some of our common vegetables is formed by each of them. I will therefore present you with Liebig's classification of cultivated plants.

		Salts of Potash and Soda.		Salts of Magnesia and Lime.	Silica.
Silica Plants.	Oat straw with seeds, . . .	34.00	4.00		62.00
	Wheat straw, . . .	22.50	7.20		61.50
	Rye straw, . . .	18.65	16.52		63.89
	Good hay, . . .	6.00	34.00		60.00
Lime Plants.	Pea straw, . . .	27.82	63.74		7.81
	Potato stalks, . . .	4.20	59.40		63.40
	Meadow clover, . . .	39.20	56.00		4.90
	Buckwheat straw and seed, . . .	29.00	45.00		26.00
Potash Plants.	Maize (Indian corn) stalks, . . .	72.45	6.50		18.00
	Turnips, . . .	81.60	18.40		
	Beet root, . . .	88.00	12.10		
	Potatoes, (tubers,) . . .	85.81	14.19		

By comparing any two of the above, taken from different classes, we see how different the proportions of their several ingredients; hence we infer that in most cases, our best way is to manage our rotation in such a manner as not to have plants belonging to the same class succeed each other. Still, such plants, under certain circumstances, may succeed each other without disadvantage. If, for instance, a soil abounds in lime, then different species of *lime plants* may follow each other; or if it abounds in silica or potash, then those plants requiring a plentiful supply of either of these, as the case may be, may be raised for several years consecutively.

In order to show still more clearly the advantages of a judicious system of rotation, and the manner in which a soil becomes impoverished, we will briefly examine two plants taken from different classes in the foregoing list. Take, for instance, buckwheat and oats, the entire plant of each. The former, we see, contains 45 parts in 100 of the salts of lime and magnesia, and but 26 of silica; while the latter contains but 4 parts of the salts of lime and magnesia, and 62 parts of silica. Now, when a field, the soil of which contains the usual average of these ingredients, is cropped with buckwheat for several years in succession, the demand for lime and magnesia will exceed the supply, so that this plant can no longer thrive. But oats require much less of these ingredients; therefore, when there is not enough of them to supply the wants of a crop of buckwheat, there may still be sufficient for a crop of oats; and as buckwheat draws from the soil but a small amount of the salts of silica, and oats require a large supply of them, we may reasonably conclude that oats would, in most cases, succeed on land which had been partially exhausted by buckwheat. I would here observe, that, when I speak of the soil being *exhausted* of any ingredient, I do not mean to say that no more of that ingredient is contained in it, but that it is exhausted of all that is sufficiently decomposed, or in a proper condition to contribute to the growth of plants.

As regards the precise order in which crops should succeed each other, it is impossible to lay down any particular system that can be of universal, or even of general application, although it has frequently been attempted; yet there are so many circumstances by which it should be governed, that any plan that can be proposed is liable to lead some into error. Besides, those who have rules or directions to guide them in an undertaking, which

requires an exercise of judgment, are liable to place too much dependence on such rules, without going to the trouble to examine the principles, or bases, on which they are constructed. The better way appears to be to point out general principles, and thus, by enlightening the understanding, render every man competent to lay out his own plan, and such a one as is best adapted to his peculiar circumstances.

I will only add, in conclusion, that the system of rotation which appears to succeed best in this section, where the soil is a gravelly loam, is the following:—1st, corn or potatoes, on clover sod, with or without manure, as may be deemed most expedient; 2d, oats; 3d, rye; 4th, rye; 5th, clover. The latter is sowed on the rye early in the spring, and left two or three years in pasture, or, is sometimes mowed. It may be said, in objection to this system, that two *silica plants*, (oats and rye,) are here made to succeed each other; and again, that it is bad policy to put the same kind of grain on a field two years successively, as is here done with rye. I admit the force of these objections, but reply that the system is a judicious one *in this region*, where the soil contains an abundant supply of silica. When we know our soil to abound in any one ingredient, we will almost invariably find it to our advantage to confine ourselves, as far as practicable, to the cultivation of such crops as require the largest supply of that ingredient. On most soils, rye is found to succeed better when raised several years in succession on the same ground, than any other crop. Without manure, the produce of the second year is almost certain to be less than that of the first, and that of the third less than that of the second.

J. MCKINSTRY.

Greenport, N. Y., July 1st, 1849.

INTERESTING EXPERIMENT WITH WHEAT.

I LATELY found among my papers, the following account of an agricultural experiment:—

In August, 1795, Mr. Alsagar in Herefordshire, (England,) planted a single grain of wheat, and as soon as it had fairly rooted, he took it up, divided it into several parts, and transplanted each. In August, 1796, it was reaped, when it was found to have produced 137 ears; the average containing 80 grains to the ear. The total produce from this single grain was 10,960 grains, besides the straw, most of which was seven feet high. This shows what a prodigious advantage there is in even the common mode of setting, or what is termed dibbling, in comparison with the general practice of sowing broadcast.

I believe there is no other method ever practised in the United States than the one last named; but the question naturally arises, whether such a method as the one referred to in Mr. Alsagar's experiment, could be made available on a large scale in any country; or, upon any scale in this, where land is plenty, and labor dear; except, perhaps, as an experiment for farmers' boys. Would wheat, if planted in drills, or in hills, and cultivated like Indian corn, produce a proportionate increase of grain? Corn, when sown broadcast, certainly does not produce a crop of grain worth the cost of gathering.

E. S.

FOREIGN AGRICULTURAL NEWS.

By the steamer *Hibernia*, we are in receipt of our foreign journals to August 3d.

MARKETS.—*Ashes* in good demand. *Cotton*, no change since our last. *Grain and Flour*, a slight decline.

Provisions in greater request, with a tendency to advance. *Cheese* of a good quality much wanted.

Money abundant, and American stocks in moderate request.

Annual Show of the Agricultural Society of England.—This took place in July, at the old town of Norwich. It shows a steady, increasing interest in the improvement of agriculture in the mother country. The number of animals exhibited was 624, and of implements 1,880. Several of the latter were of a new kind. Among other things, we find plenty of portable steam engines, for threshing, and performing other farm work. The number of visitors present was very large. Lectures were delivered by able professors on different branches of agriculture. Dinners, toasts, and speeches followed, rendering the meeting an agreeable jubilee to the English farmer.

Letting of Southdown Bucks.—Mr. Webb, of Babraham, England, has just let 67 Southdown bucks for the season, for £1,474 (about \$7,000!) The highest price was paid by Earl Ducie, which was 86 guineas (\$430). Think of that, ye improvers of stock in America. But we may hardly live to see breeders of fine animals so well remunerated in this country.

State of Crops in Ireland.—The weather has been beautifully fine, and the reports from several districts respecting the crops are most satisfactory. From some of the midland counties, however, there are accounts of the appearance of blight, or rust, in wheat, but nothing that will affect that crop generally. Rumors are afloat, also, concerning the potato disease, but they were partial; though the disease will appear, there can be little doubt; still, the general belief is that it will be in a very mitigated form.

Disease among Sheep.—"We regret to learn," says the Norfolk Chronicle, "that a disease in sheep is again prevalent on several farms in the southeastern district of the county; and it is believed to have been caused by a want of due caution in burying the carcasses of those animals which died last year by infection."

Shetland Ponies.—It appears that the facilities now offered for the conveyance of stock from the Shetlands southward, has had an effect on the sale of the celebrated ponies bred in these islands. Those which would have sold for 20s. before the introduction of steamers, are now generally sold at about £5; and £7, £8, and sometimes as high as £10, are given for superior animals.—*Inverness Courier*.

New Water Lily.—"The most extraordinary plant I have seen," writes Mr. W. Bidwell, from Wide Bay, New Holland, "is a water lily, (*Nymphaea*), growing in a lagoon called Boppoo. This plant has leaves 18 inches or more in diameter, grows in 15 feet of water, and the flowers are 11 inches in diameter in their natural expansion. I doubt if *Victoria regina* is a finer plant."

Cutting off the Stems of Potatoes.—Mr. C. Wood, of Wadsworth Common, England, says, in a communication in the *Agricultural Gazette*, "I have followed the plan ever since 1845, with success. I had the tops cut off, last year, quite in a green state, long before the tubers could possibly be either ripe or have finished their growth; and, when taken up, they were fine in size and of excellent quality. I have a few of them left yet, (July 10th,) in a perfectly sound state. The only difference in the plan pursued by Mr. Lomba and mine, consists in putting a layer of earth over the surface, a practice in which I can see no value. I

usually remove the haulm on the first appearance of the botrytes, (disease,) on the undersides of the leaves. I have already taken it off my early sorts, and I am satisfied, from experience, that, if this is strictly attended to, no one need fear the disease, either in wet or dry, rich or poor soils."

Etherizing Bees Preparatory to Taking Honey.—Put about half an ounce of ether in a small flask of two ounces capacity, and connect it with the hive by a piece of glass tube 15 or 18 inches long, bent in the middle at a right angle; place the flask in a basin of hot water, and the ether will then pass through the tube into the hive in a state of vapor. The glass tube should be fixed air-tight in the flask with a cork, in the usual way, and the entrance hole of the hive should also be closed with glaziers' putty, dough, or any similar substance, after the other end of the tube has been inserted into it. If a flask be not at hand, a thin phial may be used instead of it. The operation must be performed in the evening.—*Ag. Gazette*.

An Ancient Goose.—On Sunday last, Mr. W. Turnill, of Braceborough, experienced a loss of a singular nature—no less than the death of a favorite goose, which had been on the premises at Braceborough for sixty years, and prior to that had been in the possession of Mr. John Smith, of Deeping, St. James, for forty years. The bird was consequently 100 years old at its demise. Mr. Turnill intends having the skin stuffed, and preserved as a relic of antiquity.—*Stamford Mercury*.

Unappropriated Land in New Scotland.—That portion of British America, lying south of the river St. Lawrence, between latitude 43° and 49° north, and the longitudes 58° and 68° west, known at present under the name of "New Scotland," is estimated to contain the following amount of vacant land at the disposal of the crown:—In Nova Scotia, (proper,) 5,787,772 acres; in New Brunswick, 12,300,851; in Prince-Edward Island, and Cape Breton, 1,000,000; in Gaspe and Anticosti, 5,000,000—in all, 24,088,623 acres.

Method of Expelling the Weevil.—The chief director of the hospital of the city of Sens has devised an easy method of expelling the *weevil*, the ravages of which pest he estimates at twenty millions of dollars annually in the barns of Europe.

Canada Woollens.—The Ontario Woolen Mills, Coburg, Canada West, wove and finished nearly 60,000 yards of cloths during the last six months. The year's work will be 140,000 yards. Last year, Mr. Mackenzie, the proprietor, finished, of cloths, Tweeds, satinets, and flannels, 100,538 yards.

Meeting of the French National and Central Society of Agriculture.—At a late session of the French National and Central Society of Agriculture, an association which has proved widely useful, the audience was very numerous and distinguished, and included many ladies. The Minister of Agriculture and Commerce, M. Lanjuinais, presided. He delivered a pertinent address, in which he paid a warm tribute to the provincial societies for the services rendered by them to the national agriculture. Payen, the eminent chemist, perpetual secretary, read a highly interesting report of the Transactions of the Central Society, and its correspondents, for the last two years. The distribution of medals followed. One was assigned to a young man in humble life, who conceived and executed the idea of expediting the development or formation of the cork oak, (*chêne-liege*), by a skillful graft on the green oak, of which the growth is quicker. Another fell to a gentleman of Rheims, for what seemed to excite surprise and sensation in the assembly—a mode of preserving bees during the winter, by burying them in a sort of furrow, or pit. In the spring they come forth in good health, having hibernated in torpor and abstinence.

Editors' Table.

TRANSACTIONS OF THE N. Y. STATE AGRICULTURAL SOCIETY, with an Abstract of the Proceedings of the County Agricultural Societies, for 1848.—This annual and welcome visitor has just been received, fraught, as usual, with a treasure of knowledge, which cannot fail to instruct the practical farmer, as well as all interested in the culture of the soil. The volume is handsomely illustrated with one colored plate and numerous engravings on wood. It is swelled much beyond its usual size, containing 975 pages, in consequence of two long articles, one on the "Analysis of Indian Corn," by J. H. Salisbury, and the other the first part of "A Historical, Topographical, and Agricultural Survey of the County of Washington," by Dr. Asa Fitch. The latter, thus far, however authentic it may be in its compilation, or interesting in its character to local readers, appears better suited for the Transactions of the Historical Society, than for a work like the present. The second part, which will probably be inserted in the next volume, it is hoped will be more to the purpose. The other articles particularly worthy of perusal are those on Fruits, Field Crops, Domestic Animals, Dairies, and the Drainage of Lands.

DEATH OF ALEXANDER WALSH.—This distinguished and ardent friend of agriculture and horticulture died at his residence, in Lansingburgh, N. Y., on the 4th of August, in the 67th year of his age. He was for many years an active and energetic merchant in the county of Rensselaer, and was one of the earliest promoters of the N. Y. State Agricultural Society, in which he held an office until his death.

DEATH OF ELIAS PHINNEY.—Elias Phinney, of Lexington, Mass., died on the 24th of July, at the age of 70 years. Mr. Phinney has for many years been distinguished in Massachusetts as a scientific and practical agriculturist. His farm was an object of curiosity to travellers, scarcely less than the monument to the first martyrs of the Revolution. By his enterprise and skill, it had been converted from a hard, stony, and sandy estate, into a succession of blooming orchards, extensive meadows, and luxurious fields. He had devoted great attention to the improvement of domestic animals of every description, and with remarkable success. His experiments in transforming peat swamps into fertile meadow land, by a judicious system of draining, were eminently successful, and have contributed in no small degree to the advancement of agriculture in Massachusetts. He also had the charge and management of the celebrated stock, imported a few years since by that state.

CHOLERA AMONG HORSES AND HOGS.—The Cincinnati papers state that hogs, and even horses in the streets, have been smitten with the cholera, and died. Mr. Crutchfield, living about fifty miles below that city, lost fifty of his hogs in a single night, which apparently suffered great pain, with continued cramps and spasms.

FINE WOOL.—We have received from Mr. John D. Patterson, of Westfield, Chataque county, N. Y., samples of wool which do great credit to him as a breeder. The first is from a buck one year old. The fleece weighed, well washed and then dried, 14 lbs. 8 oz., and is of the finest quality of Merino. The second sample approaches the Saxon for fineness. This was taken from the fleece of a ewe one year old, weighing 10 lbs. 10 oz. In addition to yielding so large a fleece, this young ewe has bred a lamb. These sheep were purchased of Mr. Taintor, of Hartford, Connecticut, of whose importations we have several times spoken in the Agriculturist. Had we not seen the parents of Mr. Patterson's Merinos, we could have scarcely believed it possible for yearling sheep to produce such large fleeces and of so fine a quality. But seeing is

believing; and if any one is disposed to doubt Mr. P.'s statement, let him call on him or Mr. Taintor, and he will soon be convinced that the whole has not yet been told concerning these magnificent sheep.

LIVE-STOCK INSURANCE COMPANY.—A company has been organized in Connecticut, having their office in New Haven, for the insurance of "live stock." This is the first effort to protect, in this country, a class of subjects heretofore overlooked. The design was derived from the system of insurance prevailing so extensively in England, also in France and other parts of continental Europe, where the insurance of live stock presents an important feature in the influences which have contributed so largely in furnishing the various and superior qualities.

LARGE TIMOTHY.—We have received a sample of Timothy, just in flower, from Mr. Stephen J. Thompson, of Oakington, near Havre de Grace, Maryland, which measures five and a half feet in height, with heads fourteen and a half inches in length!

MANUFACTURE OF McCORMICK'S VIRGINIA REAPERS.—This extensive establishment, owned by Messrs. McCormick, Ogden & Co., at Chicago, Illinois, is carried on in a brick building 40 by 190 feet, one half two two stories, and the other half three stories high. The machinery is driven by a highly finished engine of 30-horse power, giving motion and efficiency to three planing machines, four circular and two upright saws, two wood lathes, seven iron lathes, three boring machines, machinery for cutting key seats in cart wheels, and a fan for blowing blacksmiths' fires. Between 120 and 130 men are employed in the establishment. We are informed that 500,000 feet of ash lumber, 150 tons of wrought iron and 250 tons of castings are used annually. Since the first of last October, 1,500 reapers have been built and sold at a value of \$150,000. With only one man to rake and a boy to drive, it is said that this machine cuts from 15 to 20 acres a day, depositing the grain in gavels ready for binding, and leaving no scattered heads on the field. The reapers manufactured at this establishment are sold in all the western states, but the demand is not fully supplied.

A CHEAP SUBSTITUTE FOR A VAPOR BATH.—Take a piece of lime about half the size of your closed hand, and wrap around it a wet cloth sufficiently wrung to prevent water running from it. A dry cloth is to be several times wrapped around this; place one of these packets on each side, and by both thighs, (a few inches from them,) of the patient; an abundant humid heat is soon developed by the action of the water on the lime, which quickly induces copious perspiration, the effect lasting for two hours at least. When sweating is fully established, the lime may be withdrawn, which is now reduced to a powder. In this way, neither copious drinks nor loading the bed with covering is required.—*Gazette Medicale*.

MUNIFICENT BEQUEST.—The late Mr. Theodore Lyman has bequeathed a legacy of \$50,000 to the Reform School, at Westborough, Mass., of which he was the founder. He has also given \$10,000 to the Boston Farm School, of which he has been an active officer for several years, and \$10,000 to the Massachusetts Horticultural Society, in whose labors he always took a deep interest.

EFFECT OF SALT ON WHEAT.—Some of our readers may recollect that last fall we mentioned an experiment made by Mr. John Park, of Gates, by sowing a barrel of salt to the acre upon a summer fallow. The ground was plowed once the preceding fall, again in May, and salt sowed thereon as above, and afterwards plowed twice before seeding. On the 1st and 2d of September, wheat was sown, two bushels to the acre. The crop has just been harvested, and Mr. P. is confident it will yield forty bushels to the acre.—*Rochester American*.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, AUGUST 18, 1849.

ASHES, Pots,.....per 100 lbs.	\$5 00	to	\$6 13
Pearls,.....do.	6 00	"	6 12
BALE ROPE,.....do.	9	"	11
BARK, Quercitron,.....ton.	25 00	"	30 00
BEANS, White,.....bush.	75	"	1 25
BEESWAX, Am. Yellow,.....lb.	19	"	22
BOLT ROPE,.....do.	11	"	12
BONES, ground,.....bush.	40	"	55
BRISTLES, American,.....lb.	25	"	65
BUTTER, Table,.....do.	15	"	25
Shipping,.....do.	9	"	15
CANDLES, Mould, Tallow,.....do.	10	"	13
Sperm,.....do.	25	"	40
Stearic,.....do.	20	"	25
CHEESE,.....do.	5	"	10
COAL, Anthracite,.....2,000 lbs.	5 00	"	6 00
CORDAGE, American,.....lb.	11	"	13
COTTON,.....do.	8	"	12
COTTON BAGGING, Amer. hemp,.....yard.	15	"	16
FEATHERS,.....do.	30	"	40
FLAX, American,.....do.	8	"	9
FLOUR, Northern, Southern and Western bbl.	4 25	"	5 81
Fancy,.....do.	5 81	"	6 25
Richmond City Mills,.....do.	6 75	"	7 00
Buckwheat,.....do.	—	"	—
Rye,.....do.	3 25	"	3 31
GRAIN—Wheat, Western,.....bush.	1 05	"	1 20
Red and Mixed,.....do.	99	"	1 15
Rye,.....do.	61	"	63
Corn, Northern,.....do.	62	"	64
Southern,.....do.	60	"	62
Barley,.....do.	52	"	55
Oats,.....do.	34	"	42
GUANO, Peruvian,.....2,000 lbs.	47 00	"	50 00
" Patagonian,.....do.	30 00	"	35 00
HAY, in bales,.....do.	45	"	50
HEMP, Russia, clean,.....ton.	200 00	"	210 00
American, water-rotted,.....do.	160 00	"	220 00
American, dew-rotted,.....do.	140 00	"	200 00
HIDES, Dry Southern,.....do.	3	"	9
HOPS,.....lb.	4	"	12
HORNS,.....100.	2 00	"	10 00
LEAD, pig,.....do.	4 60	"	4 63
Pipes for Pumps, &c.....lb.	3	"	7
MEAL, Corn,.....bbl.	3 31	"	3 37
Corn,.....hhd.	13 75	"	14 00
MOLASSES, New Orleans,.....gal.	20	"	21
MUSTARD, American,.....lb.	16	"	31
NAVAL STORES—Tar,.....bbl.	1 75	"	2 00
Pitch,.....do.	1 25	"	1 75
Rosin,.....do.	86	"	95
Turpentine,.....do.	2 50	"	2 75
Spirits Turpentine, Southern,.....gal.	33	"	35
OIL, Linseed, American,.....do.	67	"	68
Castor,.....do.	1 50	"	1 60
Lard,.....do.	1 00	"	1 50
OIL CAKE,.....100 lbs.	1 00	"	70
PEAS, Field,.....bush.	1 75	"	1 25
Black-eyed,.....do.	1 50	"	1 75
PLASTER OF PARIS,.....ton.	2 00	"	2 75
Ground, in bbls.,.....of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,.....bbl.	12 00	"	14 00
Prime,.....do.	10 00	"	12 00
Smoked,.....lb.	6	"	12
Rounds, in pickle,.....do.	4	"	6
Pork, Mess,.....bbl.	10 00	"	13 00
Prime,.....do.	7 00	"	10 50
Lard,.....lb.	6 1/2	"	7 1/2
Bacon sides, Smoked,.....do.	3	"	4 1/2
In pickle,.....do.	3	"	4
Hams, Smoked,.....do.	5	"	9
Pickled,.....do.	4	"	7
Shoulders, Smoked,.....do.	4	"	5
Pickled,.....do.	3	"	4
RICE,.....100 lbs.	3 25	"	4 06
SALT, Common,.....sack.	1 17	"	1 30
Common,.....bush.	20	"	35
SEEDS—Clover,.....lb.	5 1/2	"	7
Timothy,.....bush.	2 00	"	3 50
Flax, clean,.....do.	1 30	"	1 40
rough,.....do.	1 20	"	1 30
SODA Ash, cont'g 80 per cent. soda,.....lb.	3	"	—
Sulphate Soda, ground,.....do.	4	"	6
SUGAR, New Orleans,.....ton.	35 00	"	37 00
SUMAC, American,.....lb.	7	"	8
TALLOW,.....do.	3	"	9
TORACCO,.....do.	24	"	25
WHISKEY, American,.....gal.	35	"	60
WOOLS, Saxony,.....lb.	25	"	35
Merino,.....do.	20	"	25
Half blood,.....do.	18	"	20
Common do,.....do.	18	"	20

NEW-YORK CATTLE MARKET.

At Market.—1,150 Beef Cattle, (1,120 southern, the remainder from this state and east), 50 Cows and Calves, and 4,500 Sheep and Lambs.

Beef Cattle.—The market for Beeves is rather active, the sales of good retailing qualities ranging from \$6 to \$8 per hundred. The number on hand unsold is estimated at 100.

Cows and Calves.—These vary from \$20 to \$45. Unsold, 15. *Sheep and Lambs.*—These are plenty; the Sheep selling from \$1.25 to \$6, and the Lambs from \$1 to \$3.75 each. The number left unsold, 350.

REMARKS.—Ashes, Flour, Grain, Hay, Beef, Pork, Wool, Cotton, and Rice have risen slightly since our last, and are in more active demand. Other articles without change.

Crops.—The small grain is all harvested, and though the Wheat has suffered much in certain sections of the western states, and also at the south, still, as far as can be now ascertained, the crop will be a full average for the Union. Corn long since ripened at the south, and is rather more than average; in other sections of the country, except far north, it promises fairly. Some complaint of want of full earing at the north. The drought has been very severe in many parts of the northern and western states, greatly injuring the root crops and late pastures, but the abundant rains during August will remedy this in a measure.

Money continues abundant for all business purposes.

The Cholera is rapidly on the decrease. Our friends may now visit the city without danger. We have been constantly at our post; eaten vegetables, fruit, &c., as usual, and were never in better health. We mention this merely to show that the cholera is not so much to be dreaded if one is regular in his habits, temperate, and careful.

TO CORRESPONDENTS.—Communications have been received from E. Payson, J. W. Burrup, Thomas Antisell, E. S. M. W. Philips, Samuel Allen, W. D. Wm. H. Sotham, A. Stevens, and Reviewer.

Sitting Hens.—The Semi-Weekly Whig, at Yazoo City.—We advise your would-be witty correspondent to refer to the definition of the verb *to sit*, and the participle *sitting*, in Webster's Dictionary. He will there find, that fowls do actually *sit*, not *set* on eggs, and thereby hatch out their young.

China Tree.—W. D., of Morristown, N. J.—What is commonly called the "China Tree," at the south, is not the *Ailantus glandulosa*, but the *Melia azedarach*, originally a native of Persia. It is also known under the name of "Indian Lilac," "Persian Lilac," "Bead Tree," "Pride of China," and "Pride of India."

Reclaiming Salt Marshes.—E. Payson, of Portland, Me.—The water should be first excluded from your marsh by means of a dyke constructed with valves or flood gates, closing with the rise of the tide, and opening without aid, if necessary, at its ebb, to let off all water that may have accumulated on the marsh by leakage, springs, or rain. The land should then be intersected by ditches suitable in number and depth to keep it dry. Then, any kind of sand, gravel, or rubbish, may be spread over the surface to a depth of three or four inches, afterwards to be well incorporated, by plowing or otherwise, with quicklime and the upper portion of the sod. Thus prepared, a salt marsh would be adapted to the cultivation of grass, and probably many of our garden plants.

ACKNOWLEDGEMENTS.—Third Annual Report of the Board of Agriculture of the State of Ohio, January, 1849; List of Premiums and Rules and Regulations for the Second Cattle Show and Agricultural and Horticultural Exhibition, to be held by the Maryland-State Agricultural Society, in the City of Baltimore, on Wednesday, Thursday, and Friday, the 10th, 11th, and 12th of October, 1849; The North and the South—a Review of the Lectures on the same Subject, delivered by Mr. Elwood Fisher, before the Young Men's Mercantile Association, of Cincinnati, Ohio. From the Southern Quarterly Review.

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Books suitable for County Clerks and Public Offices supplied.

Printing, Ruling, and Binding executed at the lowest rates.

We should be pleased to have a call from those requiring articles in our line. Orders by mail will receive attention.

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Sept. 1st 49.

COMMERCIAL GARDEN AND NURSERY.

PARSONS & CO., at Flushing, near New York. The proprietors of this establishment invite public attention to their large assortment of every desirable variety of Fruit and Ornamental Tree or Shrub. Their importations of everything new in Europe are annually continued, and they offer a very large variety of Ornamental Trees and Shrubs imported expressly for arboretums and pleasure grounds. Their collection of Roses is annually enriched by novelties from abroad, many of which may be found described in their new work on the Rose, recently published. Fruit Trees receive their particular attention, and are propagated under their personal supervision; this care, with their possession of extensive specimen grounds, in which is tested every variety of fruit they cultivate, enables them confidently to guarantee the genuineness of the varieties.

Their care in pruning and cultivation enables them also to send out thrifty and well-formed trees. From their large scale of propagation, they can offer to dealers very liberal discounts, where hundreds or thousands are taken. Orders or inquiries can be addressed to the proprietors at Flushing, near New York, where catalogues will also be furnished. They have established a Branch at Brighton Depot near Boston and by the entire success of their trees transplanted thither have thoroughly proved the superior adaptation of Long-Island Trees to the soil and climate of any part of New England. This they attribute to the perfect maturity attained by the wood before frost, which renders the trees suitable for transportation to any latitude.

At the season of transplanting, a salesman will be at their Brighton Branch to furnish those who may prefer obtaining their supply thence. mhif

SCHOOL OF APPLIED CHEMISTRY,

YALE COLLEGE, NEW HAVEN, CT.

THE Laboratory in this School is open for nine months of the year for instruction in the analyses of soils, minerals, ores, &c.

During the Summer and Autumn Terms there will be lectures on Mineralogy, Geology, Natural Philosophy, Elementary Chemistry, and other useful branches of Natural History.

The annual course of lectures on Agricultural Chemistry, by Professor Norton, will commence soon after the middle of January, and will continue till about the first of April, at the rate of four or five lectures in each week.

These lectures are intended to be delivered in a form quite intelligible to those who have never turned their attention to chemical studies. The great principles of improved Agriculture will be illustrated and explained during the progress of this course, in such a manner as to be understood by all.

TERMS.—Tickets for the course \$10. Students in the Laboratory have glass, chemicals, balances, and other apparatus furnished them, and pay \$20 per month. Analyses of minerals, soils, &c., made promptly, and on reasonable terms.

For further information apply to either of the subscribers.

B. SILLIMAN, Jr.,

Professor of Chemistry Applied to the Arts.

J. P. NORTON,

Professor of Agricultural Chemistry.

New Haven, July, 1849. sept 1t

SELLING OFF—LINNÆAN BOTANIC GARDEN AND NURSERY.

LATE OF WILLIAM PRINCE, DECEASED,

Flushing, Long Island, near New York.

WINTER & CO., PROPRIETORS.

IN consequence of the decease of the junior, and of the advanced age of the surviving partner, who, therefore intends to relinquish the business, the entire stock of this establishment, comprising every description, including the newest and choicest varieties, of FRUIT AND ORNAMENTAL TREES, SHRUBS, VINES, AND PLANTS, ROSES, GREENHOUSE PLANTS, Box EDGING, &c., will be disposed of in lots to suit purchasers, at very reduced prices, in order to close the business as speedily as possible.

Orders accompanied with the cash to the amount of ten dollars or upwards, will be supplied at a reduction of twenty-five per cent. from the usual prices.

Nurserymen, venders, and others wishing to purchase, by wholesale, will be supplied at such reduced prices, according to quality and quantity, as will probably prove satisfactory to them.

It is requested that letters of inquiry, &c., be *post paid*. Descriptive Catalogues gratis. sept 2t

IMPROVED STOCK.

DURHAM, Hereford, and Devon Cattle; Cotswold, Leicester and South Down Sheep; Lincolnshire, Suffolk, and Chinese Pigs, all superior breeds, can be had by the subscriber, of the best quality, and shipped to any port of the country. Autumn is the best time to execute such orders.

SAMUEL ALLEN,

189 Water street, N. Y. sept.

NEW BOOKS.

JUST PUBLISHED BY HARPER AND BROTHERS,

82 Cliff Street, New York, Vols. I. and II. of

THE HISTORY OF THE UNITED STATES OF AMERICA, from the Discovery of the Continent to the Organization of Government under the Federal Constitution. By Richard Hildreth. To be completed in three volumes octavo.

This important work presents, in a compact and popular form the first complete history of the United States that has ever appeared. The author's pursuits and studies have prepared him for the most faithful and skillful execution of his task. The style is characterized by great perspicuity, force, and gracefulness; the narrative is unencumbered, and the tone of the history sound and scholar-like. He gives the great mass in our reading country just the history which is adapted to their wants, and which, we have no doubt, will at once gain the position that it deserves, of a popular, readable book for the million, which may be relied on for the correctness of its details, while it wins the attention by the simple beauty of its narrative.—*Corr. Boston Chronotype.*

It is full of detail, bears marks of care and research, and is written under the guidance of clear sight and good judgment, rather than of theory, philosophical or historical, or of prejudice of any sort whatever. We trust it will be widely read.—*N. Y. Courier & Enquirer.*

DANTE'S DIVINE COMEDY.—THE INFERNO—A Literal Translation. By Dr. John A. Carlyle. 12mo.

The object of this translation, as stated by the author, is "to give the real meaning of Dante, as literally and briefly as possible." Probably no one is better qualified to undertake the task than Dr. Carlyle. The same energy and force of expression regarded as peculiar to Thomas Carlyle, are traceable in the literary productions of his brother, the author of the work before us. The text of the original, carefully collected from the best editions, accompanies the translation, and is printed beneath it, that those who have any knowledge of Italian may understand the original itself more easily. It well deserves the commendation it has received from the English press, and is, both in spirit and manner of execution, the best translation published.—*N. Y. Journal of Commerce.* sept 2t

PATENT FANNING MILLS AND GRAIN CRADLES.

GRANT'S celebrated Fanning Mills and Grain Cradles have been awarded six first premiums at the New-York State Fairs; also, at the American Institute of New York and several County Fairs. Wherever exhibited, they have taken the first premium over all other mills. The great encouragement we have received from dealers and agriculturists has induced us to enlarge our business. All orders will receive prompt attention. J. T. GRANT & CO., 3

Location F. O. Rens. Co., N. Y., 8 miles north of Troy. The above mills are also for sale by A. B. ALLEN & CO., 189 & 191 Water street, New York. my 6t

VIRGINIA LANDS.

THE attention of Northern Farmers who wish to purchase in Fairfax County, Va., is invited particularly to two farms for sale, three miles east from Fairfax Court House, thirteen from Alexandria, and fourteen from the city of Washington. There are no buildings on either tract, but, by following the custom of the country, comfortable and temporary ones can be cheaply built. The soil is well adapted to farming purposes, and there is timber on them, near two sawmills.

These farms would sell in the north, for from \$50 to \$100 per acre, and can be bought here in a more pleasant and healthy climate, one for eight, the other for ten dollars per acre, on easy terms, and a good title given.

Further information given, if requested, by T. R. Love, trustee, either personally, or by letter, (postage paid,) directed to Fairfax Court House, Va. f. tf. H. FULLER.

PERUVIAN GUANO.

The undersigned has made arrangements with A. B. Allen & Co., of New York, by which he is enabled to offer unusual facilities to farmers who may wish to obtain a supply of guano for the next crop of wheat. It will be delivered either at Richmond or Petersburg, and furnished at the lowest prices at which it can be afforded. The high reputation of those gentlemen is a sufficient guarantee that none but the best article will be sent from their house. All inquiries will be promptly responded to. THOS. S. PLEASANTS, au 2t Petersburg, Va.

AYRSHIRE HEIFERS.

WANTED by the last of October next, two Ayrshire Heifers, from six to eight months old. They must be from approved milking families. Please to state price, delivered in this city, jy 3t SAMUEL ALLEN, 189 & 191 Water st., N. Y.

VALUABLE FARMS IN EASTERN VIRGINIA.

LOT No. 38. 230 acres in Prince George, 8 miles S. of Petersburg, in the marl region,—50 acres cleared, 75 acres of timber in original growth, with much excellent heart pine. Price \$5 per acre.

No. 39. 111 acres, 4 miles from town, near the railroad, all in wood, in marl region. Price \$10 per acre.

No. 40. 286 acres on James River, $3\frac{1}{2}$ miles from Smithfield in Isle of Wight county, beautifully situated; good dwellings and outbuildings, within 200 yards of the landing, where the finest fish are caught all the year, excellent oyster flats, &c.; good apple and peach orchards; a most desirable place for raising fruits and truck for the northern markets. Price \$3,600.

No. 41. 240 acres 20 miles west of Richmond, with two large dwellings—the land is good, and the situation very healthy. Will be sold very low.

No. 42. 426 acres $\frac{1}{2}$ open, in Charles City, near an excellent wharf, on James River, where steamboats stop daily, and very near a settlement of Jerseymen. The buildings are good and the land excellent. Price \$12 per acre.

No. 43. 400 acres in Gloucester county, with good house and outbuildings, 200 acres cleared, marl in every field—200 acres in heavy timber; within two miles of a good landing. Price \$2,000.

No. 44. 533 acres on Pamunky River, in King-William county, 150 acres cleared, much of the balance heavily timbered with white oak and ash, will be sold at a great bargain.

No. 45. 440 acres $5\frac{1}{2}$ miles south of Petersburg, 150 acres open, the balance in timber, good meadow land, well watered with fine springs, good dwelling and outhouses, $\frac{3}{4}$ of a mile from the railroad. Price \$2,700.

No. 46. 500 acres on the public road from Petersburg to Surry, 15 miles from town, the larger portion open, and part of it now productive of tobacco, wheat, corn, and cotton; plenty of good marl, buildings comfortable. Price \$3 per acre. Also an adjoining property with better buildings.

No. 47. 220 $\frac{1}{2}$ acres 15 miles south of Petersburg, on a public stage road, all in very heavy heart pine of superior quality, hickory and oak; the soil is excellent; plenty of cleared land can be had adjoining; it is 3 miles from the railroad. Price \$1,000.

No. 48. 521 acres, about 200 acres in cultivation, all marled, and producing fair crops, good brick house and good outbuildings, marl in the greatest abundance, much good timber and wood. It is bounded on one side by a navigable creek; is only 2 miles from a good wharf on James River, where steamboats stop every day, and 2 miles from Surry Court House. Price \$3,600.

No. 49. 600 acres, 1 mile from Surry Court House, $4\frac{1}{2}$ miles from James River, 300 acres open, all marled, most in clover, and now productive of good crops of wheat and corn; good two story dwelling; abundance of marl; good springs; much good timber and wood. Price about \$5,000.

No. 50. 500 acres, all in wood, adjoining the above; it will cut 30 cords of wood per acre, and is within $1\frac{1}{2}$ miles of a landing. Price \$3,000.

No. 51. 585 acres adjoining the above; 150 acres open; 250 acres in virgin growth, $1\frac{1}{2}$ miles from Surry Court House. It is well watered, and has abundance of marl; a public road divides the tract, and each part has an old house upon it. Price \$4 per acre.

No. 52. 793 acres, 3 miles from Cabin Point, and 5 miles from James River, 250 acres cleared; plenty of good marl; good two-story dwelling and outbuildings; a good mill seat and old mill; much good timber and wood. Price \$5,000.

No. 53. 470 acres, 4 miles from Surry Court House, adjoining Swan's Point, on James River; about 150 acres in cultivation, all marled; plenty of marl; a good landing on Cross Creek which bounds one side of the farm, dividing it from No. 48. Game and fish are abundant. An excellent two story dwelling, outhouses and garden; good springs, &c. Price about \$3,500.

No. 54. 724 acres near Williamsburg, Va.; 400 acres in oak and pine timber, on a navigable stream; abundance of marl. Most of the open land has been improved, and produces good crops of corn, wheat, and clover, &c., &c. The buildings are comfortable; terms accommodating. Also a valuable manufacturing mill, within six miles of the above land.

No. 55. 7,000 acres on James River, in Charles-City county, near 3,000 acres in cultivation, and highly improved. The soil is of first quality, and now bears from 25 to 30 bushels of wheat; 50 to 60 bushels of corn per acre. There are numerous dwellings, barns and mills, all in excellent order. The timber is unsurpassed. Upwards of 3,000 acres are in virgin growth, of excellent white oak for shipbuilding, and heart pines of the largest size and best quality; many of the trees being from 3 to 4 feet in diameter, and from 50 to 75 feet to the first branch. This estate fronts on the James River for 6 to 8 miles. There is an excellent wharf, where vessels drawing 16 feet water lie afloat at low tide; and the steamboats to and from Baltimore, Norfolk, Petersburg, and Richmond, stop daily. This estate is worthy the attention of agriculturists, shipbuilders, and lumbermen. It will be sold either altogether or in portions to suit purchasers, and the terms

will be very accommodating. A map of the whole will soon be prepared.

No. 56. 213 $\frac{1}{2}$ acres, about $\frac{1}{2}$ in cultivation, and in good order, 1 mile from Surry Court House, and 3 miles from Carter's Wharf, on James River, where the steamboats stop every day. It has on it 1,000 cords of wood, within $1\frac{1}{2}$ miles of a good landing; plenty of marl. The buildings are in good order. The dwelling is 30 feet square, with 2 rooms and a passage on the first floor, 4 rooms above, and a finished basement. Vessels from New York, &c., come here every spring for early fruits, potatoes, &c. Price \$1,500 cash.

No. 57. 477 acres on the Appomatox, 8 miles N. E. of Petersburg, 100 acres open, the balance in good timber. Price \$2,000.

No. 58. 636 acres, bounded $\frac{3}{4}$ of a mile by the Appomatox, 8 miles W. of Petersburg, 300 acres open, and much heavy timber. It has a canal to town. Price \$5 50 per acre.

No. 59. Adjoining the last is an excellent mill seat, with water power sufficient for several mills of the heaviest class, directly on the canal.

No. 60. 166 $\frac{1}{2}$ acres, 22 miles S. W. from Petersburg, and 4 miles from Dinwiddi Court House; 250 acres in cultivation, land in fair condition, and would make a fine grazing farm; has fine springs and streams, and much excellent timber. The neighborhood is very healthy, and the society good. Price \$3.50 per acre.

No. 61. 550 acres, near Charles-City Court House; good dwelling, ice house and all other outbuildings. The soil is excellent, situation healthy, and water good; 2 miles to a navigable creek, and 4 miles from James River; 210 acres are in cultivation, and the timber is very fine. Price \$8 per acre.

No. 62. 550 acres, 20 cleared, the balance heavily timbered. It lies on a navigable creek, and is within 2 miles of James River. The land is level, and soil superior. Price \$8 per acre.

No. 63. 412 acres on James River in Charles-City county. It has only 40 acres cleared, the balance in wood. Price \$3,500.

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The subscriber earnestly invites the attention of his friends, and all who are seeking new homes, and profitable investments, to these properties, and others which he has in his care. Believing that this region possesses substantial advantages over any other part of the United States, in climate, soil, low prices of lands, navigation, and facilities for travel and transportation of produce to the best markets, he invites a thorough examination, and promises every aid in his power.

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CLAYTON B. REYBOLD,

July 31

Delaware City.

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SEVENTH EDITION; Enlarged.

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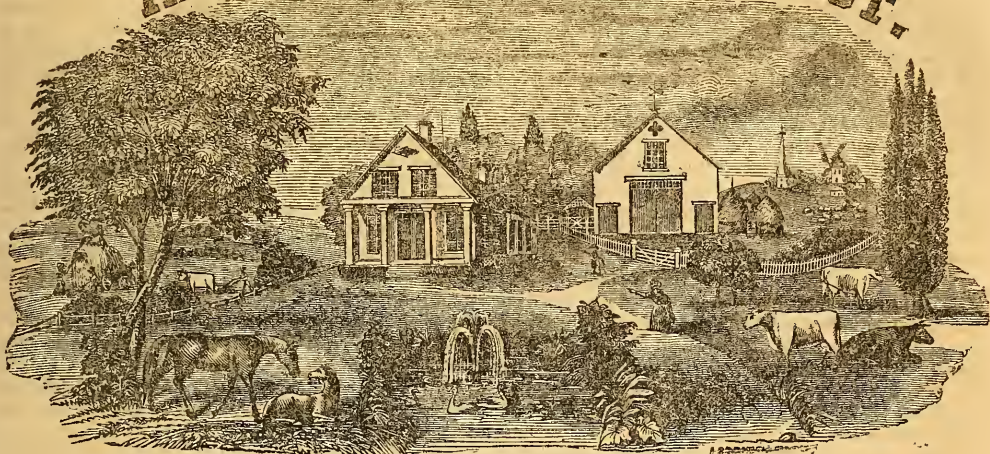
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AMERICAN AGRICULTURIST.



Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

VOL. VIII.

NEW YORK, OCTOBER, 1849.

NO. X.

MESSRS. ALLEN, EDITORS.

C. M. SAXTON, Publisher, 121 Fulton Street.

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AND

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The following is an extract from the law of the United States on the subject of postage as applicable to this periodical:—

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TO POSTMASTERS AND OTHERS.

UPON an examination at this office of the May number of the "American Agriculturist," printed in New York, at 121 Fulton street, it is decided, under the approval of the Postmaster General, that said publication is a newspaper, within the intent and meaning of the 2d and 16th sections of the Post-office act of Congress, of 3d March, 1845, being in its superficial dimensions not more than 1,900 square inches, and "conveying intelligence of passing events" in that department of the affairs and business of society to which the publication is devoted.

S. R. HOBBIE,

First Dpt. P. M. Gen'l.

Post-Office Department, Contract }
Office, May 28th, 1849. }

WORK FOR OCTOBER, NORTH AND WEST.

General Remarks.—Any portion of the work omitted to be done in September, or impracticable to be performed from the state of the climate, as recommended in our last number, may be accomplished this month, such as — *sowing winter wheat and rye, the selection of seed corn, threshing grain, fumigating granaries, cutting and stacking corn, composting manure, draining wet lands, &c., &c.*

Fall Plowing.—All stiff, clayey lands, intended for spring crops, may be plowed this month, when the earth is neither too wet nor too dry. If plowed at the right time, and subjected to the winter frosts, the texture of the soil will be greatly improved.

Plowing and Planting for Orchards.—If you design to plant out a young orchard, either this fall, or next spring, the ground should now be twice thoroughly and deeply plowed, when not too wet, turning under at the second plowing a liberal coat of compost, formed of swamp muck, charcoal, wood ashes, and oyster-shell lime. At the extreme

north, the trees may be planted towards the close of this month, agreeably to the directions given at p. 330, of our sixth volume.

Trenching Old Orchards.—If you have any neglected old trees in your orchards, fork or trench up the earth all around their trunks for a distance of four or five feet, and give to each tree at least a bushel of compost, made of equal parts of stable manure and leaf mold, or swamp muck. And at the top of this, spread half a peck, each, of charcoal dust, wood ashes, and oyster-shell lime.

Felling Timber, Fencing Stuff, &c.—If circumstances require it, all non-resiniferous timber may be cut this and the next five months following, for reasons assigned at p. 362, vol. vii.

Gathering and Storing Winter Fruit.—Winter apples and pears should be carefully picked from the trees by hand, packed up in barrels, and stored in a cool, dry room, in which the temperature ranges, as near as possible, to the freezing point. If such a room should eventually become too cold, put them in an airy, dry cellar, sufficiently cool as not to allow them to freeze.

Cider Making.—This is the proper month for making cider, minute directions for which will be found at p. 247, of the current volume.

Harvesting and Storing Root Crops.—Carrots, sugar beets, and mangold-wurtzel should be well secured before the occurrence of heavy frosts. They should be perfectly matured, before they are pulled, which may be known by the yellowish color of some of their leaves. If allowed to remain unharvested beyond that time, a new elaboration of the juices takes place, and much of the saccharine principle, which is the fattening one, is destroyed.

Turnips and parsneps may be left in the ground until there is danger of freezing, and the latter, if not wanted for winter use, are all the better for remaining unpulled until spring. In this case, all the water must be carefully led away from the beds, otherwise, they might rot.

Potatoes, for winter keeping, should never be dug before they are ripe, which may generally be known by the decaying of the vines.

All kinds of culinary roots, after digging, should be protected from the sun, by throwing over them some leaves or straw, and as soon as the dirt attached to them becomes dry, let them be carried, at once, to the cellar, or pit, where they are to be stored. They should be kept from the air by putting them in barrels or bins, loosely covered with straw; and it would be still better for them to sift in between the interstices some fine, dry sand, or powdered, air-slacked lime. Such as are stored in the fields may be put in pits, where the ground is sandy and dry; or they may be piled up in conical or long heaps above the surface, at any height required. A coating of straw should first be laid over them, in the manner of thatching the roofs of buildings, in order to shed off the rain. In parts of the country subject to heavy frosts, or snow, the heaps should be covered with a layer of earth, sufficiently thick to prevent the roots from freezing; but care must be observed not to expose them, if possible, to a temperature above 38° or 40° F., as they then would be liable to heat, grow corky, and probably rot. The earthy covering for winter

need not generally be completed till quite late in the season; as, by leaving the straw partially bare, the escape of moisture and heat from the roots will thereby be facilitated, which is all-important, immediately after they are thus stored. When finally covered over for the winter, a hole should be left at the top of the heap, or several, if the pile be long, in each of which a wisp of straw should be placed, for the escape of moisture and gas. If the ground be stiff and clayey, the heap should be surrounded by a ditch, at least a foot deep, so as to carry off all water that might accumulate from rain or melting snow; otherwise, the lowermost portions of the heaps would become wet and spoil.

Storing Winter Cabbages.—Such cabbages, at the extreme north, as you wish to keep through the winter and early spring, may be pulled up by the roots, and arranged in compact rows, with their heads downward, resting on the surface of the ground, so that their stalks will stand upright in the air; then, they may be covered with straw and earth, and treated in every other respect as directed for the root crops above.

Storing Pumpkins, &c.—Secure your winter squashes and pumpkins by placing them in a cool, dry place, where they will not freeze, and you may have the luxury of these vegetables until quite late in the spring.

Care and Management of Stock.—The remarks given in our hints for last month, in this department, are equally applicable to this. In addition thereto, it may be stated that cows, intended for milk, should be kept constantly in good condition; as, when they are disposed to become very lean, and that in the winter season, it is impossible that they can be brought to afford a large quantity of milk. When they are lean, at the period of calving, no after-management is capable of bringing them in a condition to produce, for that season, anything near the proportion of milk that they would have done, had they been kept in good order during the winter. Food of the most nourishing and succulent description, should be given them in suitable quantities during the cold months; and they should be well supplied with pure water and kept warm.

Kitchen Garden.—Keep your crops of lettuce and spinach entirely clean; they may now be thinned out, leaving the plants four or five inches apart. Those intended for late-fall or winter use should be transplanted into frames, and protected from frost at night. The same plan may be adopted for other vegetables intended for winter use. Toward the end of this month, top asparagus, and give the beds a coat of well-rotted, stable manure, two or three inches deep.

Fruit Garden and Orchard.—Continue propagating by cuttings and layers as long as the season will permit. Plant beds of strawberries that may have been omitted last month. Allow your Isabella and other grapes to become perfectly ripe before they are plucked.

Flower Garden and Pleasure Grounds.—Continue to sow the seeds of bulbous and tuberous-rooted flowers. Transplant biennial and perennial roots of flowers. Lift the bulbs and tubers of gladioluses, tuberoses, dahlias, &c., as soon as the tops have been killed by the frost. Ornamental trees

and shrubs may now be propagated by suckers. Lay out new pleasure grounds.

WORK FOR OCTOBER, SOUTH.

General Remarks.—Most of the hints given for the Work for September, South, will be applicable to this month, as *harvesting cotton, sowing oats, wheat, rye, &c., &c.*

Preparation for the Cane Harvest.—In the course of this month, let the planter get everything in readiness for cutting and grinding sugar cane. If necessary, repair the roads leading from the cane fields to the mill; put in order your carts and yokes; procure and sharpen the knives or hooks for cutting the cane; see that the sugar mill, or rollers, is properly geared, well oiled, and clean. If your business will warrant it, procure, by all means, a steam engine, rather than use horses or mules. See that your boilers are well set, and that the flues are strong, as well as clear of filth. Put all minor utensils in good order, as the conductors, or gutters, coolers, vats, hogsheads, boxes, &c. Read all works, also, in your power, on the modern improvements in sugar making.

Planting Cane.—By the last of this month, in Florida, Texas, and Louisiana, more or less of the cane will have arrived at its usual maturity, from which you should provide for your future crops. Give early attention to the saving of your cane for planting, on account of the injury it receives from frosts, which are liable to occur by or before the middle of next month. This plant is always propagated by cuttings, which should be obtained from the best cane of the preceding season. From the use of unripe tops, and close, negligent planting, it is supposed the Creole cane has degenerated to its present diminutive size. There is less vigor and growth usually from tops than from the ripened cane; though where these are matured and a portion of the ripe stalk is left with it, the resulting crops, under the most favorable circumstances, are scarcely distinguishable. Fine growth frequently follows planting the tops, where the land is new and fertile; but it is the exception and not the rule. Good husbandry dictates a reliance on sound, mature cane only, for general use. There is no doubt, that in accordance with the general laws of vegetation, the cane crop would be benefitted by a change of the plant cane from one section of country to another. But as this would be attended with so much trouble and expense as to preclude the undertaking, the only remaining means available for securing improvement, or preventing deterioration, is to be found in planting the best qualities of healthy cane.

In order to preserve the cane, it is kept from the period of cutting till planting, simply by placing it on a dry surface of the field, in beds, or "matresses," as they are technically termed, of about two feet in depth, and having the tops shingling, or overlapping, the ripe portion of the stalk. The tops should lie towards the south, to prevent their being lifted and frozen from severe north winds, which sometimes occur. Thick beds preserve a more uniform temperature, and repel the approach both of frost and the rays of the sun; thus serving the double purpose, besides their preservation from frost, of preventing fermentation during fall

and winter, and germination on the approach of spring.

It is well to preserve an excess of cane for planting, as continued and severe spring frosts may cut down and destroy so many young shoots, as to leave a deficiency, unless partially replanted. Many think the cane will keep better by being cut soon after a rain, so as to be bedded with the sap vessels full, and that dry rot follows when cut after a long drought. Some, however, allow it to lie on the ground and wilt for two or three days after cutting, and think, when thus treated, it keeps equally well.

Storing Sweet Potatoes.—In the latter part of this month, or early in November, prepare for preserving sweet potatoes for winter and spring. Select a dry spot, level the ground, and lay down a bed of straw, so as to form a circle about six feet in diameter. On this straw, pile up the potatoes until they form a cone four or five feet high, over which spread a little dry grass or straw. Cover the entire cone with corn stalks, set up endwise, with the butts resting on the ground, and the tops reaching over the apex of the heap, sufficiently thick to conceal the potatoes. Then cover the whole pile with earth, at least a foot thick, without leaving any air hole at the top, as is frequently the case. A temporary shelter should then be made over the cone, so as to prevent the rains from washing off the earth. This may be done by setting in the ground near the base of the pile four forked stakes, on which rails or small poles may be placed, to support a covering of bark, rough boards, or thatch. Potatoes can be preserved in this manner until June, nearly as fresh as when new.

Kitchen Garden.—Sow beets, turnips, onions, cabbages (early and large sorts,) radishes, (round and long,) lettuce, celery, chervil, endive, cress, spinach, Windsor and pole beans, lentils, mustard, sorrel, parsley, and roquet. Transplant asparagus and strawberries; also cabbage roots for seed. Dress artichokes, take away all their suckers but three to each stalk, open their roots, lay about them new earth and manure, and plant out suckers for another crop.

Fruit Garden, Shrubbery, &c.—At the end of this month, transplant all kinds of trees and shrubs except oranges and lemons.

DR. CLOUD'S SEED WHEAT.—We have just received a letter from Dr. Cloud, of La Place, Macon county, Alabama, in which he says, that the severe frost, on the 15th of April last, almost entirely destroyed his wheat. At that time, it was very promising, and he hoped to have grown seed enough to furnish all his friends with his choice variety. He desires us to inform all those gentlemen who have applied to him for some of this wheat, that he has carefully filed away their letters, and if he is fortunate enough another year to save a good crop of seed, he will see that they are all abundantly supplied.

OLON ROBINSON.—To the numerous enquirers after Mr. R., it gives us pleasure to say, that, after a brief visit to his family in Indiana, he has returned to this city, and is again our active and efficient agent in the field of agriculture. We shall detail his intended winter rout next month.

NINTH ANNUAL SHOW AND FAIR

OF THE

N. Y. State Agricultural Society.

THIS was held at Syracuse, on the 11th, 12th, and 13th days of September. The ground occupied by the society was on an elevated point, overlooking the city and adjacent country, and about a mile northwardly from the central portion of it. The enclosure was ample for everything contained within it, but the inequalities of its surface made it somewhat inconvenient for many of the animals, and especially such of the horses as were required to exhibit their best paces. The same desirable arrangement of shade for the cattle was secured, as the year previous, at Buffalo, and which, we hope, will never hereafter be omitted. The necessity for it was never more urgent, for the whole week was one of unmitigated drought and scorching sun, almost unparalleled at this season of the year. It was from this cause, and the immense clouds of dust that enveloped every avenue, the ceaseless tide of visitors thronging every part of the place, equally without as within the enclosure, and the numberless animals and articles exhibited, each claiming its share of attention, that exposure, toil and weariness were intimately allied to the gratification which any intelligent visitor could not fail to receive. The railroads, canals, and principal wagon roads leading to the place, were each loaded to repletion, and every train and vehicle was seriously incommoded by its fellow.

The crowd, inconvenience, and bustle necessary to these annual gatherings, is greatly augmented by the assemblage of every variety of gaudy show, or worthless vagabondism that the occasion will tolerate. As if it were not enough, that all the farmers of the state are solicited to bring their best specimens of animals, crops, &c., and examine the comparative merits of each, every other conceivable object calculated to attract attention, from president down to organ grinders were there, to swell the mob beyond all reasonable sufferance. We had regiments of tawdry militia, who might have been usefully employed in preserving order, instead of creating confusion; companies of holiday firemen, who could have made themselves useful, by allaying the dust rather than by exciting it; a circus, drawing 10,000 spectators to its fooleries; Fanny Kemble, with her *Lears* and *Macbeths*; the most notorious pugilists, that were opportunely kicked out of town by the municipal authorities before the rowdies had secured the preponderance; and conjurers and mountebanks of every descending grade. General Taylor, by a merciful dispensation of Providence, and equally for his own as others comfort, was not there; for, instead of the 100,000 said to have been congregated there on a single day, we might have witnessed another 50,000 in addition. We had other great men there, however, and many more who yet hoped to be; and to cap the climax, we were honored with a convention, made up of the file leaders and their assistants, from the converging wings of a great political party. Some future Bunyan can draw a more intensely-graphic picture of *Vanity Fair*, from actual reality, as here exhibited, than the most excited imagination has hitherto done.

Now, we put it to the good sense of the farmers of New York, whether they shall encourage, hereafter, by all reasonable means, or endeavor to repress, the tendency to associate pell mell, this incongruous mass of utility and nonsense, things befitting the occasion, and things utterly subversive of it. We care not how large the concourse may be, of the sincere admirers of agricultural objects, nor what may be the inconvenience following from it. All this we are willing to accept as a necessary part of the occasion. But we heartily deprecate the factitious influences brought into requisition by the publicans, the porters, and the purveyors of every sort, to stifle and suffocate the legitimate visitors on these occasions, by these spurious broods of auxiliaries, led thither for the purposes of notoriety and excitement by one party, and the hope of extortion and plunder by the other. These are faults of human nature, excessively aggravated by the energy of American character; and it is against the tendencies of these traits, that we would urge every possible precaution for the future.

The weather, as is common to the season of the year, was unclouded and dry. The excessive dust excited on these occasions within and near the show grounds, ought, hereafter, to be thoroughly saturated by watering carts. This should be made a binding condition on the part of any town, soliciting the presence of future shows, and one, we hope, the officers of the society will not fail to insist upon.

We noticed an economical arrangement for most of the necessary halls, offices, &c., for the accommodation of the various objects connected with the show. These have heretofore been almost exclusively constructed, at a large cost, of timber and boards; but in the present case, they were amply provided for, by immense awnings. These are more graceful than any hastily-erected wooden structures are likely to be, as they can be closed or have free ventilation as required, and the annual cost can scarcely be one tenth of the frame buildings.

Horses.—There was a very large show of these, embracing quite a variety of different specimens of blood, road, and work horses, many of which possessed great excellence. We did not, however, see any of the Normans nor Cleveland Bays, which were in considerable force, at Buffalo, last year. It is one of the great advantages in the annually-changing position of these shows, that they call out new specimens and varieties of animals and crops, which any stationary place would fail to exhibit. Thus we had a comparatively new exhibit of horses, quite unlike any shown last year—in some respects superior, and in others decidedly inferior. The same is true of

Cattle.—In this department there was double the number of good *Devon* bulls exhibited, we ever recollect to have before seen together. The location better suited the exhibition of *Devons*, than any other point in the state, as they have been bred in the surrounding counties, particularly in Otsego, in considerable numbers, for many years. Two cows, shown in this class by A. Stevens, were of large size, surpassing beauty, and perfection of form. Many others of the *Devons* were almost equally meritorious in appearance. We are glad to

see this favorite breed spreading over the fine feeding grounds of every part of this state.

The *Short Horns* were not behind the *Devons* in quantity nor merits, but they did not bear that excess in numbers they have generally done. The bull and two heifers, recently imported by Col. Sherwood and Mr. Stevens, were on the ground; and though in only indifferent condition, they received, as they richly deserved, the highest premiums, for their unmistakably high-bred qualities. There were many other very choice animals in this class upon the ground, one of which, belonging to Mr. Bell, of Westchester, was cheaply purchased at \$400.

The *Herefords* were exhibited by their veteran importer Mr. Sotham, of Black Rock, Erie county, and by the Messrs. Bingham, of Vermont. The last were descendants of the importation of Messrs. Corning and Sotham, and equally with them, showed great merits of blood and breeding. Most of the latter were offered for sale, and they ought to command the favorable attention of graziers throughout the country.

Of *Ayrshires* there were not a large number on the ground. They were, principally from the herd of E. P. Prentice, of Albany, and possessed great merit; we saw a few others, without being able to learn their ownership.

Native and Grade Cattle.—Of the former, very few were shown, and most of these, we should think, were brought forward by some of the most inveterate sticklers for blood, to show off, by contrast, the wide disparity between the improved stock and the unadulterated native. They were incontestibly, lean specimens of a leaner species.

Some of the *grades* were magnificent, especially among the milking stock, fat, and working cattle. These were mostly crosses with the shorthorns, and evinced the rapid improvement these invaluable animals are capable of producing, when judiciously crossed with good subjects. The numbers did not compare with the magnificent teams heretofore driven in by the stock raisers and graziers of western New York, and as shown at Auburn, Rochester, and Buffalo. But they were good, according to their numbers, and sufficed to convince any one, who needs convincing at this late day, the decided improvement any breeder has it in his power to engraft upon his unimproved herds. A few choice cows were shown by L. G. Morris, of Westchester, a cross of the shorthorns and Dutch cows. These are famous milkers, as described in another article in our present number, and deservedly received some of the best premiums.

Fat Bulls.—Some immense specimens of these were on the ground, and though few comparatively in this class were exhibited, they were mostly good animals. But we saw none that possessed much merit, that did not apparently derive their principal excellence from some of the improved breeds.

Sheep.—In one respect, the exhibition in this department far excelled anything ever before offered. The distinguishing peculiarity consisted in the numerous splendid specimens of the French Merinos, recently imported by Mr. Taintor, of Hartford, and now owned by the Messrs. Bingham, of Vermont. There were about fifty in all, as we estimated, mostly grown ewes and lambs; and with their

massive fleeces, shearing from six to sixteen pounds each, covering carcasses of great size and perfection, they seemed to embody the perfection of the medium-wooled species. Large prices have been paid for such of these as the owners could be induced to sell, and we trust this importation will be the means of extensive improvement in this valuable race. There was, in addition to these, tolerably full representations from other flocks of Merinos, Saxons, Bakewells, and South Downs, many of which were excellent specimens of their respective classes.

After this commendation of these large improved breeds of sheep, we wish it understood, that we do not underrate the value of those of a medium size; on the contrary, we advise all those to retain their present stock, if they possess good constitutions, and are of fine points, at least, till they are prepared with a superabundance of feed, and have in the way of barns and sheds, all necessary accommodation for larger and finer bred animals.

The *Swine* did not exhibit so great an array of numbers, but some of the leading breeds, the Berkshires, Leicesters, and their crosses, showed great excellence in their flesh.

Of *Poultry*, there was a more meagre show than we have ever before seen. Some very pretty specimens of what were labelled Java Bantams, clean-legged, plump-bodied, well-shapen, little bipeds of assorted colors, white, speckled, and grey, made up all there was of interest on the premises, in this department. Some half dozen Bremen geese, and a less number of common-looking dung hill fowls comprised all the balance.

In *Dairy Products* there were several choice specimens, embracing some variety, especially in the style and character of the cheese. But the quantity was not so large as we had expected to witness, in the long-practised and successful English making cheese districts of Oneida, Herkimer, Montgomery, and other neighboring counties.

The Domestic Fabrics—Home-mades.—The handiwork of the farmers' help meets were few and comparatively unimportant. We miss the long files of substantial flannels, the nicely-spun yarns, the huge bundles of soft, woolen socks and mittens, the glowing comforters, tempting almost as the fair hands that knit them, and make one almost wish for a frosty day for the pleasure of wearing, and the daintily-made coverlids—spreads and counterpanes are the modern terms, we believe. Few of all these we saw, and their absence elicited rather melancholy musings, as we thought of the stores of these substantial realities, that make the farmer's home comfortable, healthful, and happy, our good old patriotic revolutionary mothers would have proudly set forth on any similar occasion, had agricultural shows been the fashion sixty years ago. We have changed all this, say the modern belles. Ah! but have you changed it for the better? Machinery has been made to do a large part of this department of women's work, but in mitigating their labors and diminishing their cares, we hope it may not have lessened the stock of those genuine homely virtues, that afford the surest pledge of manly heroism and self-denying, laborious patriotism from the other sex, when these may be demanded. In our next number, however, we shall

give a list of articles exhibited by one old-fashioned matron, just to show what can still be done in the country.

Silk.—We saw no silk, cocoons, raw, sewing, nor manufactured, though a few hanks of these are said to have made their appearance there. Well, we hope our farmers' wives and children are more profitably employed than in rearing the silkworm and manufacturing his web, but we very much doubt if they all are. It is beyond all question, that this branch of our domestic industry will pay those liberally who go into it intelligently and perseveringly. Certain it is, that there is a large amount of comparatively idle population, hanging about our large towns and cities, mostly of foreign pauper emigrants, who might be successfully employed in cultivating the mulberry, rearing the worms, and manufacturing some of the plainest articles from the cocoons. Under intelligent, judicious management, this business might be made to tell, with vast advantage to the industrial wealth of the nation, and the moral and domestic well-being of those concerned in it. An augmenting population is annually thrown upon our shores, much of which is better fitted for this employment than any other. Such are the Protestant Portuguese refugees, some 1,500 of whom have recently come among us, asking employment, that they may earn an honest support. We commend this subject, in all its bearings in a national and patriotic view, to the careful consideration of our statesmen and philanthropists.

Farm Implements were shown in great abundance and of superior quality, though we did not observe anything decidedly new, either in construction or principle. The mechanical has well aided the agricultural interests of this country, by the numerous choice implements it has furnished, combining ease and perfection of working, with strength and durability of material, and finished fully equal to the just wants of the farmer. Success in our agriculture has, perhaps, been more efficiently secured by the introduction of improved implements, than by any other single means; and the farmer who expects success in his operations, without a full supply of all needful tools of the latest and best improvements, may look for disappointment, if not ruin.

There were several specimens of draining tiles, both tubes and oval. The former are made in this country by machines, recently imported from England, and may now be considered within the reach of every American farmer. The advantages of the introduction of *underdrains* are so manifest, wherever they are absolutely required, that any really intelligent man would prefer giving away one half of his highly cultivated clays, to secure thorough underdrainage of the remainder, if he could accomplish it on no better terms.

Other Manufactures were displayed in considerable quantities and variety, and did credit to the artisans by whom they were presented.

Floral Hall was a point of great attraction, containing, as it did, the flowers and fruits, with successive and large delegations of the fair donors and architects of this rural structure, and its attractive furnishings.

Pomological Fruit Convention.—This asso-

ciation commenced its operations in the large market Hall, on Friday, the day succeeding the close of the fair. We noticed only the commencement of its proceedings; but were agreeably disappointed in observing so large a number present, from almost every section of this country and Canada. There was a large assortment of several varieties of choice fruit presented from northern and middle Illinois, showing, conclusively, that industry and enterprise have been busy in that far-off region. Ohio, Pennsylvania, and even Missouri and Canada, furnished fine specimens from their orchards and fruit gardens. The present season, however, has been so unpropitious to the growth and perfection of many species of fruits, that the show was altogether less extensive than last year.

Good fruit and its cultivation are certainly enlisting a liberal share of enlightened public attention, in this country, and we rejoice in recording it. While it is one of our greatest luxuries, and where freely and judiciously used, one of the surest guarantees of health; and so far, at least, as aliment is concerned, it has become an important branch of our productive horticulture. Thousands are now profitably and constantly employed in rearing the choicest fruits for market, while millions devote their leisure in restoring that abundance and perfection, which must have constituted one of the greatest of the physical charms of Eden. The time selected for this convention, seems inappropriate, for this reason; that the fruits exhibited should be as recently gathered as possible; and as most of the delegates leave home to attend the agricultural show, and when from a distance, necessarily have to superintend its selection, packing, and transportation, most of it loses that freshness and character essential to an accurate estimate of its merits.

As utility and permanent, wide-spread information is the object of this convention, we should much prefer that its members have the exclusive investigation of the specimens brought forward, and that they have them, too, in full perfection. For the distant view which spectators are required to take of the state specimens, a good assortment of such fruits as any well-cultivated neighborhood affords, will suffice for that object. We think this department, to which the enterprise of its votaries seems determined to do full justice, at the annual gatherings, should be made distinct hereafter. Let the fruit amateurs take it exclusively in hand, and bestow the premiums that may be offered by the parent society, through their own officers, and under their own organization. Justice will be thus better secured, and the public will have more confidence in the awards. The parent society has enough to do with its cattle, sheep, horses, swine, poultry, implements, seeds, crops, essays, and transactions. Let them yield up this part of its duties to those willing and competent to do it justice.

The Address of Professor Johnston was listened to with undivided attention, a notice of which may be found under the head of Editors' Table, at p. 325 of the present number.

HEMP CROP IN MISSOURI.—We learn that the farmers of Platte county, Missouri, have commenced harvesting their hemp, and that it promises more than an average yield.

ARROW ROOT—ITS SOURCES AND CULTIVATION.

THE arrow root of commerce is a species of fecula, chiefly starch, obtained from the roots of the *Maranta arundinacea*, originally a native of South America, and is believed to be found indigenous at the present time in Florida, and in the vicinity of Vera Cruz. The same term is used, also, from a fecula prepared from the common potato, known by the name of "British arrow root," as well as from the cassava plant, or Brazilian arrow root, (*Jathropa manihot*), the "tapioca" of commerce, and from the *Curcuma angustifolia*, known under the name of "East-Indian arrow root." The latter comes in the form of a white powder, somewhat resembling bi-carbonate of soda or Rochelle salts. When pressed between the fingers, it does not crepitate like the arrow root of the West Indies.

The "true sago" of the shops is obtained from tuberous roots of a species of palm, (*Cycas circinalis*), and very nearly resembles in its composition arrow root or potato starch. A similar substance is also obtained from the wild sago, (*Zamia pumila*), of Florida, the "coontia" of the Seminoles, which signifies in their language "bread plant." It consists of a small shrub, very closely resembling the habitat of the real sago family, *cycas*. During the late Seminole war, many of the Indians and others were prevented from perishing with hunger by having recourse to the bread prepared from the large tuberous roots of this plant; and it is stated that the negroes on several plantations, in Florida, save half their allowance by the use of this bread.



ARROW-ROOT PLANT.—FIG. 74.

The arrow-root plant, (*Maranta arundinacea*), is a perennial, having a thick, fleshy, creeping root, quite full of knots, and having many long, white fibres. Directly from the roots, arise numerous radical, spear-shaped leaves, six or seven inches long and three broad, which are smooth on the upper surface, somewhat hairy underneath, and stand upon slender petioles, or foot stalks. From among these leaves issue several erect, herbaceous

stalks, about two feet in height, each dividing, as they ascend, into two or three smaller branches, which terminate by a loose bunch of small white flowers, standing upon peduncles nearly two inches long. At each joint of the culm, or stalk, is a leaf of the same shape as the radical ones, but smaller in size. The flowers are succeeded by three-cornered capsules, each of which encloses a hard, rough seed.

The arrow-root plant requires a light, loamy, fertile soil of good depth. It is propagated by dividing the roots and planting them in drills from twelve to eighteen inches apart. The ground should occasionally be stirred and kept clear of weeds. When a year old, the roots are taken out of the ground, well washed, and either grated, or beaten into a pulp in mortars of wood. In this state, the pulp is put into clear water and intimately mixed with the fluid by stirring. The farinaceous parts are thus washed off into the water, while the fibrous portions are separated, collected together, and deprived of their moisture by squeezing, and then thrown aside. The white, turbid fluid, which remains, after being strained through a hair sieve, in order to free it entirely from all fibrous particles, is left to subside. The supernatant liquor is then drawn off, leaving the starchy matter at the bottom, in the form of a paste. Fresh water is again added to the mass, and the mixture left to settle, after which, the upper portion of the fluid is drawn off as before. Whenever a very fine article is desired, this operation is repeated for the third time. When thus prepared, the paste is exposed on boards or cloths to the rays of the sun, and there left until thoroughly dry. It is then put up in boxes or casks and is ready for sale or use.

The principal part of the arrow root of commerce is grown at Bermuda, the Bahama Islands, St. Vincent, Jamaica, and St. Kitts. How far its cultivation may be rendered profitable in the southern states of the Union, experiment alone can determine. It certainly is worthy of trial.

GRAFTING—FRUIT CULTURE IN MISSISSIPPI.

I SEND you the following plan for grafting fruit trees, which I consider the best I ever heard of. I learned it of the Rev. A. B. Lawrence, now of Liberty, Miss. It is very easy as well as simple, and can be performed at any time that the bark will separate easily from the wood. I have known trees grafted in October.

In the first place, you are to have a parcel of young trees for stocks, about the size of the finger; then procure the grafts of bearing trees, of the present year's growth of wood. The terminal buds, or ends of the limbs, that have ceased growing, in length, are the best; but those that have double buds are good. If you have to carry them any distance, wrap them in wet paper and keep them moist until grafted. Cut the limb containing the buds three or four inches long; then, with a sharp knife, slope the end of the graft on one side; make a cut on the stock in the shape of the letter T; raise the bark, and stick the graft in between the bark and wood; apply a little tallow and beeswax to keep out water and air; wrap it with a strip of cloth or bark, and if done well, three fourths of them will grow finely. In three or four weeks, you

can tell whether they will grow, and if they seem to be doing well, cut off the stock above the graft, and there will be no more trouble but to keep them well trimmed. It is a very efficient and simple method, and any one who tries it will be pleased. — I have been giving attention to fruit culture for eight years, and have quite a variety of apples, pears, and peaches. I find the Bartlett pear to be the very best I have, a very healthy and vigorous growth, bears early and seems to be free from all disease. Finer fruit than I have at this time on a small tree you could not find anywhere. I have examined fruit in the markets of all the northern cities, and never saw better. The apples that do best here are all the June varieties, the horse apple, maiden's blush, Bevan apple, fall pippin, and I have one called the Davis apple, purchased at Hatch & Co.'s nursery, Vicksburg, that is fine, ripening very late, and will keep through the winter.

Last spring, I applied lime and ashes around all my apple trees. By the application of a plenty of these, with proper care, we can have fine fruit.

Perhaps it is not known by many of the readers of the *Agriculturist*, that nearly all seedling pear trees that have thorns on the limbs are barren and will not produce fruit.

E. J. CAPELL.

Centreville, Miss., July 23d, 1849.

IMPROVING LIGHT SOILS.

SINCE the time, when in company with yourself and other invited guests, I went on an agricultural excursion over that part of Long Island contiguous to the railroad, I have often thought of the most speedy and economical mode for the cultivation of the vast number of acres that now lie there in a barren and neglected state. At the time, I was very well satisfied, in my own mind, that much, at least, of these lands might be made available; and the opportunities of seeing the successful efforts of others, with what I have done myself in improving light soils, has confirmed me in the opinion, that they could be made available, and where, now, there is little or nothing of value growing, good crops could be produced.

The question arises, what is the cause of the barrenness of these lands? The prevailing opinion is, that they are destitute of the elements of fertility, that they require an abundant supply of manure, and that they are so leechy that they retain manure but a very short time. Chemical analysis does not point out that they are entirely destitute of nourishment for plants, but that they contain many substances which are found in productive soils. In fact, the lands are so similar in quality to the soil found in many sections, acknowledged to be tolerably fair, that we ought, perhaps, to look for other reasons than the absence of some particular elements.

In the neighborhood of Poughkeepsie, I have seen what I often observed in the city of New York, when cellars and sewers were dug, and where streets were opened, that in making perpendicular cuts in the soil, of greater or less depth, you could have an excellent opportunity for examining the formations of the different strata of earth. On my own farm, where I can raise two good

crops of garden vegetables in a year, and any other crop in its perfection, and in several other places, I have had the opportunity of seeing, where the earth was removed in some instances to the depth of twenty feet or more, that the strata were first composed of several inches of surface soil, next yellow, sandy loam, and then layers of sand or gravel for the whole depth removed. Why is it that such lands as these are not considered barren? Why do they retain their fertility for years, merely receiving the droppings of the cattle when pastured, with no other manure except the sod which is turned under in the course of the rotation, and occasionally by a dressing of plaster? In every instance where I have examined such soils, the subsoil was found to be dense and compact; while other land examined, where the subsoil was light, loose, and shelving, it was very poor in quality, and much inclined to gully and wash.

The plan which I have thought would answer for the first object is, to plow the ground early in the spring, when it is moist; when one furrow is turned, then, with a heavy roller, with a flange on it wide and deep enough for the purpose, the subsoil could be compressed in that furrow. If marl, clay, swamp muck, or any stiff soil could be previously deposited in the furrow, it would be a great benefit to apply it. After this, another furrow could be turned over the first, and so continued until the whole field is tilled. Many advantages, it appears to me, would arise from this course. It would be directly the reverse of subsoiling. It would give a subsoil where it imperfectly exists, while in subsoiling you break up one too tenacious. If the land leeches the manure, you would thus partially prevent it. If it loses it by capillary attraction, you diminish the rapid passage of the moisture and gases by increasing the density of the subsoil. While some lands have been permanently injured by the subsoil plow, these would be as permanently improved; for it would perhaps only require one operation, as the pressed soil would be below the reach of the plow, and its action upon it would render the subsoil rather harder than otherwise, whenever subsequently plowed.

The covering of the surface is a system practised with the best effects. Merely scattering over the soil with straw will often cause a luxuriant growth of clover on dry, sandy, and gravelly side hills and knolls. I have cut, this year, fine clover and Timothy grass from a part of my farm where nothing but mullens and light grass grew for years, and several attempts for seeding down were unsuccessful. I attribute the advantages in a great measure to raising a crop of peas on the ground most exposed. After the field was prepared by proper cultivation, I thought it would be a good plan to sow it broadcast very early in the season. To insure the early and perfect vegetation of the peas, they might be soaked a few hours in a solution of guano, and then rolled in plaster previous to sowing. After they are sowed, a liberal quantity of guano should be applied, and then, the ground harrowed and rolled. When the peas come to proper perfection, they might be fed off by hogs, after which the land should be immediately plowed and the remnants of the vines turned under, and the

field sowed with buckwheat, which might also be turned under, seeding down the field with rye.

It strikes me that this would be a reasonable mode of reclaiming these lands; for the soil in a cheap way would be improved physically, and it would have added to it almost two crops of vegetable matter, which I believe it most wants—and it would have the benefit of having been completely sheltered during the whole season, which I think, also, is one of the greatest advantages to successful tillage; for, in their exposed situation, the sun dries up almost all the vegetation, and therefore there is a want of the vegetable matter found in good, productive soils.

This system would be, of course, primary to subsequent good tillage by the best rotation of crops, and the liberal use of fish, sea weed, and other manures which are to be obtained in abundance in the vicinity. HENRY A. FIELD.

Poughkeepsie, N. Y., August, 1849.

ANIMAL CHARCOAL AS A MANURE.

FARMERS should be continually reminded of the great advantage which a large city offers to them in the means of supplying manure. For instance, the refuse of manufactories, in most cases, is capable of being converted into some compost fitted by slight additions of saline substances, to become the most suitable fertilizer to growing crops.

Bone dust and bones, in every shape, now occupy a high and undisputed position in the list of artificial manures, and any mode of obtaining them readier and cheaper than by the purchase of the fresh article, is a boon to the agriculturist; and this, a large city like New York most abundantly supplies.

The refuse animal charcoal left after sugar refining may be used as a substitute in many instances with even more utility than bone dust itself. This refuse does not appear to have always a constant composition, but varies slightly when obtained from different establishments. This is due to the adoption of different modes of manufacture. The charcoal, in some cases, is only used in one operation of refining, while in others it is burnt a second, and even a third time, carrying on two or three refinings before it is rejected as refuse. This, of course, alters the composition to a small extent. Animal charcoal, when freshly made by burning bones in close vessels, whereby a greater proportion of the animal matter of the bones is driven off, consists of the earthy part of the bones, and about 10 per cent. of carbon.

I have lately had an opportunity of examining two specimens sent for analysis to the laboratory of the American Agricultural Association, the composition of which was as follows:—

	No. 1.	No. 2.
Charcoal,	34.00	12
Phosphate and carbonate of lime and magnesia, . .	62.25	65
Sugar and organic coloring matter with isinglass, .	2.35	10
Water,	1.40	13
	100.00	100

No. 1. would appear to have been used frequently by the large amount of charcoal in it, the quantity

of carbon which burnt bones alone would possess being not above that in No. 2. Hence, it is likely it was obtained by the burning of the sugar and coloring matters obtained by a previous refining. From this abundance of charcoal, it would form a more valuable compost than No. 2., but it has less of the sugar and coloring matters, which, by their ready decomposition, warm the ground. In this respect No. 2. excels. The quantity of bone earth in both are almost alike, and exceed the quantity in the same weight of bone dust or guano; so that, when these manures are used for the sake of phosphate of lime, the charcoal is preferable as containing them more abundantly. No. 2. also contains an unusually large quantity of water. Taken as a whole, I believe it more nearly represents the average constitution of refuse animal charcoal. I think it would make a valuable manure for pear trees and orchards generally.

THOMAS ANTISELL, Chemist to A. A. A.,
187 Grand st., N. Y.

THE COW—HER DISEASES AND MANAGEMENT.— No. 17.

Staggers, or Dizziness.—The cause of this disorder is a general affection of the brain, particularly showing itself in the state of the optic nerves. As its name imports, it manifests itself in dizziness of the head, causing a waving and staggering motion of the body, by which it is chiefly distinguished.

In the treatment of this malady, bleeding should be performed as soon as the symptoms are perceived, to the extent of three pints, if the cow is in good condition, and one half the quantity if she be poor. Her bowels should then be cleared out by a saline purge, say three fourths of a pound of Epsom salts, immediately after which the following anti-spasmodic should be given, at one dose, in a pint and a half of horse-radish tea:—

Valerian. $\frac{3}{4}$ oz.; assafœtida, $\frac{1}{2}$ drachm; nitre, (saltpetre.) $1\frac{1}{2}$ oz.; camphor, $\frac{1}{2}$ drachms.

This dose may be repeated once every twenty-four hours, until the symptoms subside.

The regimen of the animal, during her illness, should consist of thin diluent drinks, such as water gruel, mashies of barley or Indian meal. Great care should also be observed that she does not expose herself to the extremes of moisture, heat, and cold.

Lethargy, or Sleeping Fever.—The animal, in this disease, is inclined to continued dozing, or sleep, even in a standing posture, by resting her nose on the manger, or crib, being constantly in danger of falling, apparently from dizziness. This evidently shows an oppression on the brain, and a fullness of the head, the blood vessels of which are unable to expel their contents, or carry on the circulation sufficiently active. The chief point, then, is to remove the existing accumulation, or oppression, the cause of the disease, and then to give vigor to the system, in order to prevent its recurrence.

Moderate bleeding will afford almost immediate relief, which should be followed, as in the "staggers," just described, by the same attention to the opening of the bowels. These steps being premised, anti-spasmodics will then complete the cure.

Hence, the same medicine, followed by a similar regimen, and administered as in the last-named disease, will be all that is required.

Asthma, or Short Breathing.—This is a disease peculiar to cows which are fed on grain. The cause, as shown by dissection, consists in a preternatural growth at the top of the windpipe and lungs. This growth, when cut out, has been known to weigh upwards of a pound.

The symptoms of this disorder are manifested by a wheezing and difficult respiration, when the stomach is full, or when the animal is any way hurried. It is a disease that seldom affects her general health, as she will live for several years under it, and even get fat; though she is liable to drop off suddenly in the end, particularly if a cold or inflammation attack the lungs.

From the nature of this disease, it is evident no cure can be expected; but relief may always be given, by occasional bleedings and purging, whenever the animal gets in high condition, or the stomach is overloaded, in consequence of which the malady becomes worse.

Blindness.—The cause of this disorder arises from overdriving, and is therefore connected with inflammation and a fullness of the vessels of the head. No alteration in the eye of the animal is conspicuous, by which the particular affection can be known, except that it is somewhat inflamed and she is deprived of sight. Along with these symptoms, however, there prevails some degree of general fever, and the cow at the same time appears stupid and dull. Where the disease continues for much length of time, a total blindness almost invariably ensues.

In the treatment of this disease, bleeding from the jugular vein is thought to be best, to the extent of two or three quarts, if the cow is in good condition. After this, the following purge should be mixed into a powder, and administered in three pints of water gruel to which half a pint of molasses has been added:—

Epsom salts, $\frac{3}{4}$ lb.; saltpetre, $1\frac{1}{2}$ oz.; camphor, 3 drachms; coriander and cummin seeds, each, $\frac{3}{4}$ oz.

In order to complete the cure, alternate medicines should be given after the above, like the following, which have been attended with success:—

Sulphur, from 9 oz. to 1 lb.; grains of Paradise, 3 drachms; saltpetre, $1\frac{1}{2}$ oz.; tumeric and cummin seeds, each, $\frac{3}{4}$ oz.

To be mixed together and given milk warm, at one dose, in three pints of water gruel, and half a pint of molasses. This medicine generally operates briskly, sometimes continuing for ten or twelve hours. After its operation is over, the following combination will be proper, mixed together and given at one dose, in three pints of good ale or strong beer, with the addition of a handful of chopped rue:—

Flour of sulphur, 3 oz.; saltpetre, $1\frac{1}{2}$ oz.; grains of Paradise, 3 drachms; valerian, $\frac{3}{4}$ oz.; cummin seed, $\frac{3}{4}$ oz.; anise seed, $\frac{3}{4}$ oz.; gentian, $\frac{3}{4}$ oz.

This mixture may be repeated every day till recovery takes place, which seldom requires more than five or six doses.

The regimen of the cow should be the same as in other inflammations; that is, a plenty of diluent

drinks, as water gruel, and mashes of barley and Indian meal, which should be given warm, in order to assist the operation of the medicines.

FRENCH NATIONAL EXHIBITION OF INDUSTRIAL PRODUCTIONS.

BEFORE considering the present show of the products of agriculture and industry, it may not be amiss to see what France has heretofore done for her agriculturists and manufacturers.

The first society of agriculture established in France went into operation in the reign of Louis XV. This society, however, was confined, if not to Paris, at least to the department of the Seine. It was Louis XVI., who, upon the report of one of his ministers, Baron Breteuil, on the labors of this first society, instituted a central society for all France. The decree to this effect was issued in March, 1788. The society continued to work earnestly for the good of agriculture till the disastrous revolutionary period of '93 arrived, when all institutions, academies, and learned societies were suppressed without any distinction or reserve.

In 1798, the society was reorganized by those of its ancient members whom the political hurricane of those times had left standing. It has awarded, each year from that date, premiums and medals to those breeders and mechanics who have distinguished themselves by their skill or good success in their particular calling. The Revolution of 1848 found the society in a flourishing condition; but it seemed to languish at the sound of the drum, beating to arms, and the hoarse shouting of the intoxicated crowd, and a discontinuance was at one time feared. But thus far, the republic has shown itself the munificent patron of agriculture and industry.

The present *exposition des produits de l'industrie nationale*, or show of the productions of national industry, is said to be something which France has never before seen; and something which, at one time, the most sanguine did not expect. A very large and substantial building has been erected on the square, (Carré des Jeux,) of the *Champs Elysées*, on the left of the grand avenue leading from the *Place de la Concorde* to the triumphal *Arc de l'Etoile*. The show of animals is not large. Two suits of stalls only, running the width of the building, have been provided; but these are 100 in number, wide and spacious, each furnished with a rack and manger. There are several pens, however, for sheep, and in the yard, several more for swine.

The show of animals, I said, is not very large. We have some Durhams, one or two pretty good ones, from the national agricultural institution of Greignon, several Devons, showing excellent points and purity of blood, and two or three fat Herefords, from the same institution. Much attention is daily attracted by a large, coarse, white ox, said to be of the Durham breed, three and a half years old, and weighing over 2,500 lbs. In an adjoining stall, is a small, black and white Brittany cow, six years old, weighing, as she stands, I am sure not over 600 lbs. But better qualities for milk, and more delicacy of limb and proportion, I think I never saw. Any person engaged in the dairy business must notice four Flemish cows, possessing good-sized frames, small limbs, and delicate, clear

skins, and giving unmistakable evidences of their propensity to "run to milk." They are of a dark-red color, with some white on the face, and short, crumpled horns. There are several fine horses in the fair, mostly of the Normandy breed; the one, as far as I have seen, pretty generally in use for heavy draught throughout France. They combine with strength a certain amount of speed. The diligences are principally drawn by them at the rate of six or seven miles per hour, including stoppages. They are heavy, snug-built animals, true in the harness, and never refuse to draw. I have seen one of them attached to a heavily-loaded cart, pull against a gall on his shoulder, nearly as large as my hand, six times, coming down on his knees to the smooth pavement nearly every time. The seventh time, when another horse had been put forward, he pulled his best, as if nothing had happened. Put these horses to their speed, and they get over the ground remarkably well, and without much ado either. The horses are almost invariably kept stallions. I cannot say, however, that I like the collar with which the French work their cart horses. It is a tremendous thing, rigged off with lettered sign boards, bells, and a large sheep skin, with the wool colored blue, the whole large enough for a dozen. It weighs from 20 to 50 lbs.

The show of swine, though small, is very good. Here again the institution of Griegnon is represented. It has sent in some profitable pigs, I make no doubt, which it has styled "Berkshire-Chinese;" large, white pigs, with small-boned legs and prick ears. We have, besides, several of the Chinese breed, decidedly the nicest-looking pigs I ever saw. They are very much, in shape and size, like a breed of black hogs, called Chinese, or grass breed, common in some parts of America, but from their color and appearance of thriftiness, I think they would meet with better success there, both with breeders and pork raisers. Their pork, I understand, is very tender and sweet, and commands a much higher price in the market than that of a larger size and heavier bone. As the hogs are white, the looks of the pork is not injured by that peculiarity which attaches itself to black hogs. The Berkshires claimed as full-blooded, are large and coarse, and one of them is white—a color which, I believe, is not peculiar to that breed. The French, as far as I have seen, are not very great pork eaters nor raisers; and consequently they cannot be expected to carry swine breeding to that extent to which it is carried in other countries where pork fattening is more of a business.

The display of sheep is rich in Merinos and crosses with Merinos. There are two pens of ewes from the national establishment of Rambouillet, that are very fine. I think I never saw such fine carcasses combined with such heavy and valuable fleeces. The wool, however, is not so fine in fibre as I could have expected—not so fine as I have seen at home; but with such thick, heavy fleeces, such hardy, sound constitutions, with face and legs so well covered with wool, we cannot expect the fineness of the Saxony fleece. M. Guynot, of Donarière, near Rambouillet, has some ram lambs, six and a half months old, at the show, which are nearly as heavy as our full-grown ones. They also unite a fine carcass to a heavy

fleece. The institution of Greignon has sent up several half and quarter bloods; but, of course, such crosses, with us, will not bear mentioning when Rambouillet can be brought into the question.

For the credit of France, I would leave unnoticed and undescribed its implements of agriculture. It is strange, but it is nevertheless true, that the French appear to have no ingenuity—I may say taste—for this branch of manufacture. They can make beautiful optical and mathematical instruments; beautiful apparatus for the illustration of anatomical, chemical, and philosophical experiments; but in implements of agriculture and husbandry, they are entirely behind the age. There is quite a variety of plows here, but not one which an American farmer would use, when he could get the poorest even made in his own country. But these French plows appear to work well, because they are generally drawn by from three to six heavy horses through a mellow soil. They are mostly short, clumsy, wrought-iron, and now and then, half-wooden things. In the eastern part of France, towards ancient Alsacia, I have seen farmers plowing on a side hill, with perhaps a pair of horses, a pair of cows, and a bull and heifer, or donkey, yoked together, for a team. Their plows are no less singular and antique than their teams. They consist of an iron frame with a wooden moldboard, attached in a very ingenious manner, without doubt. At the end of each furrow, the board is taken quite off and put upon the other side, in order to turn the sod the contrary way. The operation is always attended with more or less difficulty, as the long line of horses, cows, and mules must be stopped a short time at every turn. This is the only side-hill plow I have seen in operation from one end of France to the other. There are two side-hill plows at the show, or at least plows arranged for turning furrows to the right or left, at will, but which, from their extreme unwieldiness and length of bottom, must be entirely impracticable for any but smooth, even ground. I might describe several shovel harrows, seed sowers, as well as hay and vegetable cutters, but they would only amuse you by their singularity.

In my rambles through France, I have thought I was only passing through the most uncouth and unenlightened parts. I everywhere saw men, and women, too, for that matter, at work with wooden shovels, such as anybody with an axe and knife could make from a plank, an inch and a half thick, heavy, wrought-iron hoes, with short, thick handles, and enormous wooden hay forks, with natural crotches of trees serving for tines, and short, broad, droll-looking scythes, with snathes perfectly straight. But I see these same implements at the exhibition, and I conclude from it that they are the best the country affords.

No one, I think, will refuse to admit that France possesses all the requisite elements for making one of the first agricultural countries on the globe. All it wants is something to turn public attention from its ancient, and unfortunately, from present indications, still-existing hobby of war, to agriculture. The arts of war have been cultivated and carried almost to perfection, at the expense of the arts and of agriculture. We have only to open our eyes to

be convinced of this. In the shops of Paris, we see a hundred, yea, a thousand swords for sale to one scythe—a thousand bayoneted muskets to one sickle—a thousand steel breast plates and helmets to one steel shovel or hoe. Now, turn all the ingenuity and skill employed in the invention and manufacture of these implements of war, to the invention and manufacture of implements of agriculture and husbandry, and we would see plows, harrows, scythes, and sickles equal to any in the world. The elements, I repeat, are not wanting.

But what is applicable to agriculture is not applicable to the sciences and manufactures, particularly those of fancy articles, or *fantaistes*, as they are called. Here the French excel, if at all. At least, one is constrained to think so, after walking through the immense halls of the exhibition palace. A description of the articles to be seen there would be entirely too long for any journal. A list of the names and addresses of the persons admitted to show these articles alone, fills a volume. Now, when we remember that some men have on exhibition a sample or specimen of every article grown or manufactured by them, we may form some idea of the extent of the exhibition. Everything is shown us desirable or imaginable for the kitchen, the parlor, the *boudoir*, the bed chamber—from the patented cooking stove to the finely-sculptured marble mantel piece; from the child's rattle to the rich-toned and highly-finished piano; from the straw-bottomed chair to the elegant mahogany sofa; from the common stone or deal table to the costly marble or rose-wood one. In fact, here is furniture and fancy articles for every taste and every condition.

The silk culture is quite extensively carried on in some parts of France. Thus Lyons silks are known the world over. We have then, as might be expected, the most improved plans adopted for pursuing this interesting and important business; such as shelves on which the worms are fed, reels, looms, &c. In fact, every step, from the rearing of the worms to the manufactured articles themselves, ready for market, handkerchiefs, cravats, silks for ladies' use, and every variety of satin and velvets.

Next is linen and the various forms and uses to which it is put, from the finest lace work, equal to Brussels lace, to table linen and stuff for gentlemen's shirts and pantaloons.

Then there is all sorts and descriptions of cotton goods. Different machinists have brought in almost enough of their work for a large cotton mill. Pickers, jennies, looms, and apparatus for printing and coloring, and such a variety of patterns as would rejoice the eye and heart of every American housewife.

But it is for its woolens, such as broad cloths and cassimeres, that France is particularly celebrated. And the show of these articles does not do discredit to its reputation. I do not say that our American woolen manufactories cannot turn out as good cloths as those of the French; but the French, every one is ready to admit, are peculiarly happy in their dyeing department. It is no wonder it is so. The government, having always been the encourager and protector of the arts and sciences, is, in a

great measure, the cause of this superiority. Does a man make a discovery, or even, in some cases, think he has made one, by which any branch of industry will be benefitted, money is furnished him, that he may institute new researches and experiments, and complete his discovery. Besides this, French chemists rank among the first in the world, and have brought their knowledge of this science to bear upon the art of dyeing. A course of public and gratuitous lectures, continuing ten months, is every year opened at the manufactory of the Goblins, entirely devoted to this branch of industry. It can be no great subject of wonder, then, that French cloths are noted for their good colors. With a large number of our manufacturers, this is the only difficulty; and I cannot but express my opinion that it would be greatly to their advantage to send some intelligent person, who is already acquainted with the elements, at least, of chemistry, and the French language, perhaps, to this country, to attend this course of lectures, with several more on chemistry applied to the arts, also public and gratuitous. His field of study, of course, would not be confined to these lectures. I ask pardon, it is all I do ask, for this suggestion, but must insist upon its practicability.

The city of Roubaix is represented at the exhibition by more than sixty manufacturers. You may imagine some good cloths are shown. The mills of Roubaix, however, are not confined to the manufacture of woolen cloths. They are for every variety of woolen goods, from shawls to pilot cloths. The single department du Nord, bounded north by the channel and Belgium, employs over 20,000 workmen in this branch of manufacture.

Time fails me, or I could go on indefinitely in the enumeration of articles. I will, however, write down a few from my note book. Glass work, from the most delicate wine glasses up to immense revolving light houses and mirrors, ten by fourteen feet square; all sorts of iron and iron work—furnaces and forges, steam engines, fountains, pumps, and fire engines; india-rubber work; boots and shoes (no pegged ones, though); paper, blank books, binding, &c.; soap and perfumes of every kind and quality; instruments for every purpose—surgery, optics, physics, mathematics, Daguerreotypes, &c., &c.; jewelry of all qualities and at all prices; gold and silver watches; clocks for houses and church towers; plate, pure silver and silver gilt; fowling pieces, rifles, muskets, pistols, cannons, and swords; earthenware and porcelain, some most beautiful from the manufactory of Sevres; carpets, tapestry, and paper hangings; and a great many more things too numerous to mention. The number of competitors is generally very great. It is a question now to continue the exhibition to the 15th of September. To examine everything as it deserves would almost require that length of time, though "the game might not pay for the candle."

Paris, July 30th, 1849.

EGREC.

We are much obliged to our correspondent for the above interesting article on French agriculture and manufactures, and if these lines meet his eye, we beg to assure him we shall be happy to hear from him again.

IMPLEMENTS FOR DRAINING.

WE give cuts of the various implements used in England in draining, as given by Mr. Colman in his *European Agriculture*, believing that it may prove useful to those who may engage in the work.

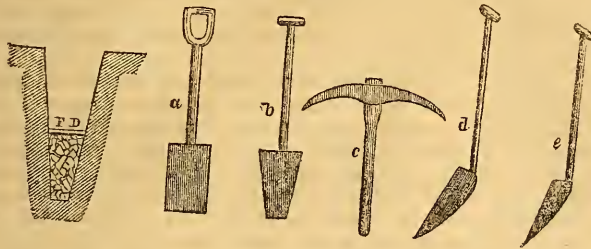


FIG. 75.

Wedge Drain

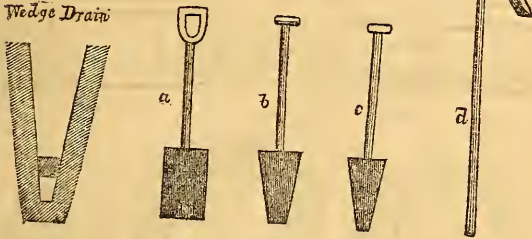


FIG. 76.

TILE DRAIN.

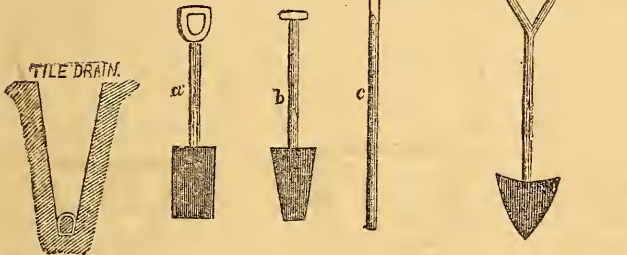


FIG. 77.

Fig. 75. Section of the frequent drain, with its fittings of broken stones and its set; *a*, first spade, common shape; *b*, second spade, which follows the first, and is narrower; *c*, pick used when the subsoil is stony; *d*, large scoop shovel, for removing the loose earth after picking; *F D*, transverse section of drain.

Fig. 76. Section of the wedge drain, with its set, as used in the carse or clay soil; *a*, first or opening spade; *b*, second spade; *c*, third or narrowest spade; *d*, narrow scoop for cleaning out the bottom.

Fig. 77. Section of the tile drain, with its set. *a*, first spade; *b*, second do.; *c*, a flat scoop, with turned-up edge, for cleaning out the bottom.

The Flaughter spade is used for cutting turf to cover the small stones in the frequent drain.

REMARKS ON DRAINING.

WE all well know that wheat and other grains as well as grasses, are never fully developed, nor produce good seed, when the roots are soaked in moisture. No man ever raised good wheat from a wet or moist *subsoil*. Now many farms of this country, though at times during the summer they *appear* dry, and crack open on the surface, are not in fact dry farms. On the contrary, for nine months out of twelve, they are moist or wet; and we need no better evidence of the fact, than the annual freezing out of the plant, and consequent poverty of many crops. Need we say more to convince you of the necessity for draining your farms?

Now comes the question, how is this great good to be accomplished? What is the best method? What will it cost? And above all, what will it pay? These inquiries we will endeavor to meet. The statements, through brief, will doubtless lead you to renewed inquiries and an active search for information.

The inquiry, how is this great good to be accomplished? What is the best method? will lead me to speak of various probable localities, each of which needs a different treatment. Thus we have in several of our towns, portions that may be called *bogs*, being generally too wet to sustain the weight of a man, and where the water seems to rise from below. These lands are very retentive of moisture, acting like a sponge, but when drained are often found to be very fertile and productive. To drain lands of this description, the first important step is, to ascertain the nature of the strata of earth, which the *nearest* high grounds may possess, in order to know whether the main supply of water does or does not flow from them. In almost all cases such is the case, and leads us at once to cut a drain, or ditch,

just above the level of the bog on the higher ground, and so deep as to intercept the waters as they descend, and by means of this ditch to lead them off towards the lowest point, thus arresting the supply of water, collecting it into one channel, and cutting it off from its usual ramifications through the bog. In time, the bog will have become so firm as to be traversed readily, though it remains wet and marshy. Smaller open drains, or ditches, should now be dug from the lowest point of the bog, to be connected with the deeper and larger ditch on the higher ground, the connection to be made at the greatest depression of the latter. Smaller lateral ditches may now be cut, leading into the main, and thus the bog will be drained and rendered fit for cultivation.

This process as regards bogs is quite simple and easy, unless it is connected with navigable streams

or lakes, or with an ebb and flow of tides, then the work is of too great magnitude for the care or attention of the farmer. In situations where these bogs may have been drained, every exertion must be used to prevent the filling of the open drains, and to overcome the excess of iron which always exists in such moist places. This is done, as you all probably know, by the application of lime; and when accomplished, the reward is great, in the immense amount of herbage the soil will produce.

To drain fields devoted to grain and meadows, it is important so to locate and construct the drains, as that no plow nor other instrument, when used at their greatest depth, can derange them; and that the drainage may be effected, they must be so graded, as to carry off the water with reasonable rapidity. It will naturally occur to every mind, that in locating a drain, the *lowest point* on the field must be the starting point, and from thence the *main drain* must be carried in as straight a line as practicable along the lowest ground and gradually ascending to the highest, the grade or rise being strictly preserved in the same ratio as to distance. This main drain is usually larger than other drains in the same field, as it is intended to receive the collected waters from other portions; its outlet must also be kept well open, and protected from any and every obstruction. When the main drain is completed, lateral drains may be cut running from any low or wet portion of the field into the main drain. Fields having a uniform slope in one direction, may have all the drains parallel to each other, sending all the water to a main drain, constructed at the lowest headland of the field, and thence flowing to the adjacent lower grounds.

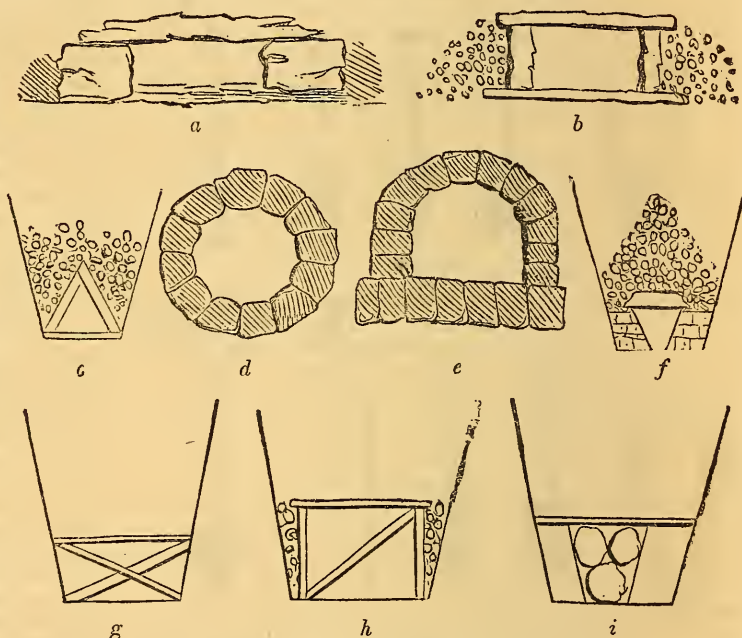
The varied undulations of the ground call for as varied positions of drains; so varied as to forbid suggestions or plans that will suit the wishes of every man; but with the foregoing general remarks, it must be remembered as a general rule that every main drain must be *not less than three feet deep*; nor must any other or lateral drain be less than *thirty inches deep*. The width of a drain depends upon the material used for construction, varying from six to twelve inches.

Many and various are the contrivances used in the construction of drains, and as usual, in all projects used as *expedients*, they are faulty, and soon become useless. Among the most approved are the following:—

Drains by masonry are intended for *mains*, but they are too expensive for our farms. The square-

stone and the triangular-stone drains are probably the best, where stone of proper dimensions can be procured on the field to be drained. If, however, stone is to be hauled from any distance, then a tile drain, which will be described hereafter, is much the best and cheapest. The other drains as figured, have been used with success, *while they lasted*; but few ever performed their duty beyond two or three years.

When you have judiciously marked out your field to be drained, and staked the course of the several trenches, let them be accurately dug at least three feet deep, and not over thirty feet asunder, for thorough draining. The trenches or ditches must run *down* the slopes, and *not across* them, that the water may go off freely. Dig the trenches as narrow as may be, so that a man can clean out the bottom and construct the drain; the width at bottom for the main drains need not exceed ten inches, and for all other drains not exceed seven



DIFFERENT FORMS OF DRAINS.—FIG. 78.

inches. Be careful to have the grade, or the fall of the water, not less than one foot in one hundred; remembering that a greater fall will more readily prevent the accumulation of sediment. Cut the main trench first all the way through the field, and do not lay in the materials until you have ascertained that the dimensions and grade are correct throughout. You are now ready to construct the drain with *tiles* of a semi-cylindrical form. These tiles are made of burnt clay, of various lengths, from 12 to 13, 14, and 15 inches, the width and height being $2\frac{1}{4}$ by $3\frac{1}{2}$ inches, and 4 by 5 inches. When these tiles are well made they are smooth and heavy, and ring when struck with a hard substance. They are so strong that a man may stand or leap on them without breaking them. The drawing now exhibited will explain the form of

this tile, and the manner of laying them in the trench. You will perceive that the tiles are laid upon flat tiles, called soles, and this is brought to your notice, because in this country, drains have been made without any support for the tile, where the bottom has been a hard clay. This practice does well for a few years, but it must be evident, that if the drains ever carry a rapid run of water, the tiles must inevitably sink, more or less, by the wearing of the



FORM OF A DRAINING TILE.—FIG. 79.

bottom, and thus in time destroy the drain. To prevent this mischief, soles are made of convenient widths and lengths on which to set the tiles, taking care to avoid placing the joints in contact, by which arrangement the tile has a firm and uniform bearing. Having your tiles conveniently placed along the trench, they must be laid with due care, first cleansing the trench, so that the soles may lay solid. The tiles being laid, it is best to cover the whole with a turf sod, and fill the trench by means of your plow or shovel, as may be most convenient. Many use straw to cover the tiles, but a turf cut about 18 inches long and 12 inches wide, will just fit and perfectly cover them, with the grass side down. The larger and smaller drains are all thus constructed, and when properly made, will never need repairs, nor further attention.

You must have noticed, that, for thorough draining, the trenches are directed to be dug at distances thirty feet apart; and this is probably the greatest distance at which drains will act so as to draw the water from the earth. In this respect we must be guided by the character of the soil, and experience will probably teach us that a distance of forty feet is an extreme limit for *very thorough* draining.

This is the method of draining now so extensively used in other countries, and about to be extensively adopted in our own; and these tiles are found to be far superior to masonry, to stone, to wood, or any other kind of drain hitherto tried. It is this system or method which has enabled the farmers of England and Scotland, of late years, to raise twice the number of bushels of wheat from an acre, more than we can do.—*Transactions of N. Y. State Society, for 1848.*

TO DRIVE AWAY RATS AND CROWS.

I PRESUME that many of your readers are troubled with rats in their barns, granaries, corn houses, &c. If they wish to get rid of them, let them procure a lively raccoon, which will not kill them but frighten them away. This is an easier and much better way to get rid of these pests than by poisoning, as then, they retire to their holes to die and create a smell anything but pleasant.

During the spring, the crows were very troublesome on the corn fields. I noticed that they did not meddle with the corn near the woods, but almost always pulled it up in open ground. Consequently, I chopped some brush and made a small booth in a corn field, and then fired off a gun and went to the house. After that, they did not pull

up any more corn. All the corn planted in this field was rolled in tar and plaster. The crows would not eat it, but pulled it up to see if it was good.

FRANK.

Oneida Co., N. Y, August 30th, 1849.

INTERESTING EXPERIMENT WITH PERUVIAN GUANO AND OTHER MANURES.

THE following is the result of an experiment to test the comparative efficacy of five different kinds of artificial manure in improving pond mud, the experiment being made on an acre of inferior pasture land, in Stover Park, England, by E. S. Bearne, in the years 1847–8–9.

The land on which the experiment was conducted, is of uniform quality, the soil being a light, sandy loam a few inches in depth, incumbent on a stratum of white clay. It underwent thorough draining in 1844, prior to which, it would not produce a rent of more than 5s. an acre. No manures were applied to the land in 1848 nor 1849. The object sought to be attained, by extending the experiment over a period of three years, was to test the *durability* of the different manures.

Manures applied in 1847.	Weight of hay cut in 1847.	Weight of hay cut in 1848.	Weight of hay cut in 1849.	Weight cut in 1847 per acre.	Weight cut in 1848 per acre.	Weight cut in 1849 per acre.
	lbs.	lbs.	lbs.	seams of 3 cwt.	seams of 3 cwt.	seams of 3 cwt.
1. Six cubic yards of mud, mixed with six cwt. of salt—cost of manure 14s.	312	327	613	4¾	4¾	9
2. Six cubic yards of mud, mixed with 1½ hogsheads of lime—cost 13s. 6d.	353	337	533	5¾	5	3
3. Six cubic yards of mud, mixed with three bush. of bone dust—cost 14s. 3d.	311	419	670	7¾	3¾	10
4. Three cubic yards of mud, mixed with three cubic yards of tan-yard refuse—cost 14s.	324	354	553	7¾	5¾	9¾
5. Six cubic yards of mud, mixed with ninety lbs. of Peruvian guano—cost 14s.	330	550	725	13¾	3	10¾

N. B.—The after-grass, in 1847, was stocked with sheep, but in 1848, it was left unconsumed.

THE FOOD OF PLANTS.—Most of our cultivated plants and trees derive their support from the earth as well as from the atmosphere. This was long thought to be otherwise, from the circumstance that Van Helmont planted a willow, five pounds in weight, in a pot filled with dry earth, and covered with a perforated sheet of tin. This earth he supplied with rain water. In five years, the willow was increased to 169 lbs. 3 oz. The earth, on being taken out of the pot, at the end of that period, dried, and reweighed, suffered no perceptible loss. Those who contended that the increase of the willow was derived solely from the rain water and the air, did not take into account the liability of dust to fall into the pot through the holes in the tin, nor the amount of mineral matter contained in the rain, with which the tree was watered, both of which, doubtless, contributed to its growth.

A CHINESE SUMMER HOUSE

ALTHOUGH we have but little to say in favor of the wisdom of the Chinese, there is much to admire, as well as to condemn, in that race of men, who, separated as they are from the rest of the world, without any model to assist them, have been able of themselves to mature sciences and invent arts. What is really Chinese, has, at least, the merit of being original.

Moreover, we regard China with some degree of affection, as the great emporium of curious porcelain and as the parent soil of Bohean bowers, yielding that precious beverage, "which cheers, but not inebriates," and which enables us to "drink deep" without the sequent evils—for its gardens with their meandering rivulets, green groves, dwarf-like trees, scattered grass plots, mounds, cavities, laughing flowers, singing birds, sparkling waters, familiar fishes, artificial rock work, and dead trees,



FIG. 80.

stuck into the reluctant soil for the sake of variety. There are some points in its architecture, too, which are both singular and pretty in design, neat in workmanship, and occasionally graced with features of much elegance and picturesqueness, which are worthy of imitation by more polished hands. Such, for instance, is the little octagonal summer house, situate on a pending rock, (fig. 80.) with its trellised sides and canopied roof, overshadowed by trees, and jutting into the sea. There is a refinement about it, a lightsome prettiness, and fitness, which recommend it to the notice of gentlemen of taste, particularly those residing on the Hudson, the Ohio, or any bluff or promontory overhanging the ocean, a river, a valley, or a plain.

PULSE OF VARIOUS ANIMALS.—The pulse of several of our domestic animals, as given by Vatel in his "Veterinary Pathology," is nearly as follows:—Horse, from 32 to 38 pulsations per minute; ox or cow, 35 to 42; ass, 48 to 54; sheep, 70 to 79; goat, 72 to 76; dog, 90 to 100; cat 110 to 120; rabbit, 120; Guinea pig, 140; duck, 136; hen, 140.

THE COTTON CROP—COTTON BLOOMS—EARLY FROSTS.

We extract the following table from the "Charleston Mercury," of the dates of the appearance of the cotton blooms and of the first frosts, by which it would seem that a late spring is almost invariably followed by an early frost:—

Years.	When in Bloom.	First Frost.
1836	4th June	14th Oct.
1837	27th May	27th Oct.
1838	14th June	7th Oct.
1839	24th May	7th Nov.
1840	6th June	17th Oct.
1841	10th June	15th Oct.
1842	17th May	1st Nov.
1843	12th June	15th Oct.
1844	31st May	30th Oct.
1845	30th May	3d Nov.
1846	10th June	1st Nov.
1847	29th May	27th Nov.
1848	1st June	30th Nov.
1849	15th June	

In 1837, it will be seen that the first blooming of cotton was on the 27th of May, and the crop was 1,801,497 bales. In 1839, cotton bloomed on the 24th of May, and the crop was 2,177,835 bales. In 1842, it bloomed on the 17th of May, and the crop was 2,379,460 bales. In 1844, it bloomed on the 31st of May, and the crop was 2,030,409 bales. In 1845, it bloomed on the 30th of May, and the crop was 2,415,488 bales. In 1848, it bloomed on the 1st of June, and the crop, aided by a very late fall, was about 2,700,000 bales. In 1849, it bloomed on the 15th of June, and this, with many other reasons, indicate that the present will be a short crop. In the first place, the cotton was generally up on the 15th of April, when we had snow and sleet, and on three or four following days heavy frosts, which occasioned an almost general destruction of the plant throughout the cotton-growing region. This made it necessary to replant, and thus the crop had a very late start. In the next place, after replanting, there was a drought, which lasted till late in May, and by the time the plant had made its appearance above ground, it had bloomed in the years 1839, '42, '44, '45, and '48. The present crop, therefore, is about three weeks behind.

INTERESTING FACT IN GRAFTING.—Du Hamel, the celebrated French pomologist and horticulturist, ingrafted a young lemon, of the size of a pea, upon the branch of an orange tree. It grew there, ripened, and had all the qualities of the lemon, without partaking of any of the properties of the orange. It is evident, in this instance, that the stalk of the lemon changed the color, taste, and smell of the juices of the orange tree. And from this experiment, we have reason to conclude, that all the different figures, colors, tastes, and smells, which we find in different plants, are formed in the plants themselves.

A HAPPY FARMER.—I am a true laborer. I earn that I eat—get what I wear—owe no man hate—envy no man's happiness—glad of other men's good—content with my farm; and the greatest of my pride is to see my ewes graze and my lambs suck.—*Shakspeare.*

SCRAGG'S TILE MACHINE.

The president of the Seneca-County Agricultural Society, (John Delafield,) has presented a drawing and description of the improved tile machine recently imported by him, and it comes opportunely to accompany this volume.

This tile machine combines every improvement which has been adopted and sanctioned by the experience of the English and Scotch agriculturists. The process is simple, and rapid, for making the various forms of tiles; the clay needs no other preparation than to turn it out of the pit, exposing it to the air for about sixty days, when it is moistened ready for the machine.

The clay is put into the machine upon screens so constructed as to remove all stones and gravel; it then passes between rollers, giving it a due consistence, and thence is passed through dies of the required shape or form, passing the tile to a receiving table; a cutting form descends and cuts the tiles to a uniform length; they are then removed to drying shelves until ready for the kiln. It is said that twelve thousand tiles may be made in a day, but half that number per diem will furnish a large supply, and probably enough, until the system of draining farms shall be better understood.

This improved tile machine produces drain tiles in the form of a horse shoe, rising 2½ and 4 inches; it makes pipes also for draining, from one inch bore up to six inches diameter, each size varying about half an inch.

Soles or flat tiles are made on which to lay the tiles when desired. Semi-cylinders are made of 8 and 11 inches diameter. It also produces with equal readiness, pan tiles for roofing and ridge tiles.

To the present year, draining tiles have cost from twenty to twenty-five dollars per thousand; they will now be offered as low as ten dollars per thousand, and every endeavor will be made by those who work the machine, to afford them at a lower price, if possible, and consistent with a fair remuneration.

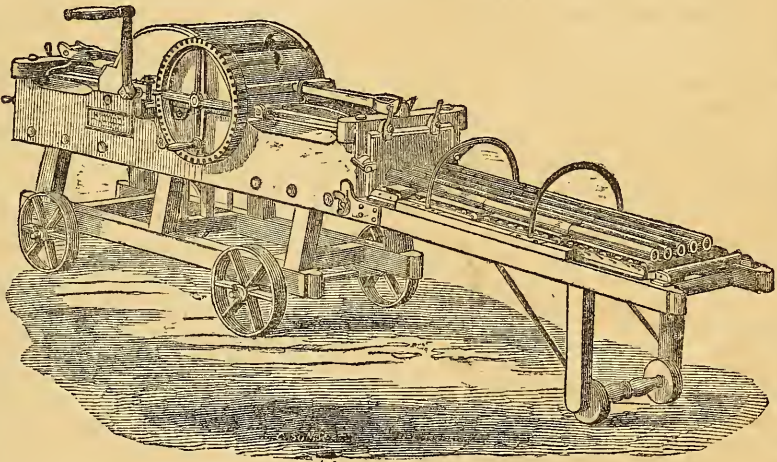
The machine was shipped on the 9th of this month, May, from New York, and will reach its destination in Seneca county, so as to be in operation in June. The farmers of that county are entitled to the thanks of the state, for their energy in thus bringing so valuable a machine into operation.—*N. Y. State Transactions*, for 1848.

He who pulls off his coat cheerfully, strips up his sleeves in earnest, and sings while he works, is the man to have.

HINTS ON THE MANAGEMENT OF HORSES.—No. 6.

The subject of *riding* is an important point connected with the management of the horse. We subjoin some excellent remarks on this subject from Lawson.

The first time a man is put on horseback, it ought to be upon a very gentle horse. He never should be made to trot till he is quite easy in the walk; nor gallop till he is able to trot properly. The same must be observed in regard to horses; they should never be made to trot till they are obedient, and their mouths are well formed on a walk; nor be made to gallop, till the same be effected on a trot. When he is arrived at such a degree of firmness in his seat, the more he trots, and the more he rides rough horses, the better. This is not only the best method, but also the easiest and shortest; by it a man is soon made sufficiently a horseman for a soldier; but by the other detestable methods that are commonly used, a man, instead of improv-



TILE MACHINE.—FIG. 81.

ing, contracts all sorts of bad habits, and rides worse and worse every day; the horse, too, becomes daily more and more unfit for use. In proceeding according to the manner proposed, a man is rendered firm and easy upon the horse, both his own and the horse's sensibility is preserved, and each in a situation fit to receive and practise all lessons effectually.

Mounting.—Every horse should be accustomed to stand still when he is mounted. One would imagine this might readily be granted; yet we see how much the contrary is practised. When a gentleman mounts at the stable, the groom takes the horse by the bit, which he bends tight round under his jaw; the horse striving to go on, is forced back; advancing again, he frets, as he is again stopped short, and hurt by the manner of holding him. The rider, in the meantime, mounting without the bridle, or at least holding it but slightly, is helped to it by the groom, who, being thoroughly employed by the horse's fluttering, has at the same time both bridle and stirrup to give. This confusion would be prevented, if every horse was taught to stand still when he is mounted. Forbid your

groom, therefore, when he rides your horse to water, to throw himself over him from a horse block, and kick him with his leg, even before he is fairly upon him. This wrong manner of mounting is what chiefly teaches your horse the vicious habit against which we are here warning. On the other hand, a constant practice of mounting in the proper manner is all that is necessary to prevent a horse going on till the rider is quite adjusted in the saddle.

The next thing necessary therefore is, that the rider should mount properly. The common method is to stand near the croup, or hinder part of the horse, with the bridle held very long in the right hand. By this manner of holding the bridle before you mount, you are liable to be kicked; and when you are mounted, your horse may go on some time, or play what gambols he pleases before the rein is short enough in your hand to prevent him. It is common likewise for an awkward rider, as soon as his foot is in the stirrup, to throw himself with all his force to gain his seat; which he cannot do, till he has first overbalanced himself on one side or the other; he will then wriggle into it by degrees. The way to mount with ease and safety is, to stand rather before than behind the stirrup. In this posture, take the bridle short, and the mane together in your left hand, helping yourself to the stirrup with your right, so that your toe may not touch the horse in mounting. While your left foot is in the stirrup, move on your right till you face the side of the horse, looking across over the saddle. Then, with your right hand, grasp the hinder part of the saddle; and with that and your left, which holds the mane and the bridle, lift yourself upright on your left foot. Remain thus a mere instant on your stirrup, only so as to divide the action into two motions. While you are in this posture, you have a sure hold with both hands, and are at liberty, either to get safely down, or to throw your leg over and gain your seat. By this deliberate motion, likewise, you avoid, what every good horseman would endeavor to avoid, putting your horse into a flutter.

Dismounting.—When you dismount, hold the bridle and mane together in your left hand, as when you mounted; put your right hand on the pommel of the saddle, to raise yourself; throw your leg back over the horse, grasp the hinder part of the saddle with your right hand, remain a moment on your stirrup, and in every respect dismount as you mounted; only what was your first motion when you mounted, becomes the last in dismounting. Remember not to bend your right knee in dismounting, lest your spur should rub against the horse.

Manner of Holding the Reins.—It may next be recommended to hold your bridle at a convenient length. Sit square, and let not the purchase of the bridle pull forward your shoulder; but keep your body even, as it would be if each hand held a rein. Hold your reins with the whole grasp of your hand, dividing them with your little finger. Let your hand be perpendicular; your thumb will then be uppermost, and placed on the bridle. Bend your wrist a little outward; and when you pull the bridle, raise your hand toward your breast, and the lower part of the palm rather more than the upper. Let the bridle be at such a length in your

hand, as, if the horse should stumble, you may be able to raise his head, and support it by the strength of your arms, and the weight of your body thrown backward. If you hold the rein too long, you are subject to fall backwards as your horse rises.

If, knowing your horse perfectly well, you think a tight rein unnecessary, advance your arm a little, (but not your shoulder,) towards the horse's head, and keep your usual length of rein. By this means, you have a check upon your horse while you indulge him.

The Curb.—If you ride with a curb, make it a rule to hook on the chain yourself; the most quiet horse may bring his rider into danger, should the curb hurt him. If, in fixing the curb, you turn the chain to the right, the links will unfold themselves, and then oppose a further turning. Put on the chain loose enough to hang down on the horse's under lip, so that it may not rise and press his jaw, till the reins of the bridle are moderately pulled.

MR. ROBINSON'S TOUR.—No. 10.

Using Bagasse for Manure.—Mr. Lapice, whom my readers will recollect we parted with last month, has found great advantage in using bagasse as manure. He grinds it through a second mill, which makes it dry and fine, and it is then spread directly upon cane stubble, where it is suffered to lie a year, and then plowed in, together with a pea crop which he plants upon the ridges, in May, and from which he derives great advantage not only as a manure, but by the shade, which greatly assists to kill the coco.

Upon Col. Manning's place, five miles below Donaldsonville, Mr. Havvin, his overseer, told me that he manured 75 acres last year, with rotten bagasse, which doubled the crop. Mr. L. and Col. M. both use lime, and pen their cattle upon the bagasse pile to rot it. This does it in two years effectually. Mr. Havvin plants cane seven feet apart, but thinks six feet would be better upon old land so set with coco as this place is, as it sooner shades the ground, which is the most effectual thing to overcome this great pest of the planters. There are 850 arpents in cultivation upon this place. The regular crop is 250 arpents of cane plant; 250 of cotton; 350 of corn; and the working force about 80 full hands, and 40 mules and horses.

Donaldsonville is about 80 miles above New Orleans, and is situated upon the point between the river and bayou La Fourche, which is a fork, as the name implies, or outlet, running out at a right angle, nearly, and is some 250 feet wide at high water, and 25 feet deep; but 60 feet wide and 2 feet deep at low water. The distance to the mouth of the bayou is about 100 miles, while by the river it is double that, and the two mouths are about 50 miles apart.

Burning Bagasse.—Below Donaldsonville, Mr. Ford has a new bagasse chimney, 40 feet high, at a cost of only \$80, which he alleges is built upon a new principle; and its cheapness is certainly well worthy the attention of all who are still disposed to practise this method of destroying a valuable article for manure.

Mr. Ford's boiler flue is conducted into the same

chimney, and it is his opinion that with two 60-foot boilers, the burning of the bagasse would make nearly steam enough to grind and boil the crop.

Value of Land on Bayou La Fourche.—Mr. Sherrod Sparks, 14 miles below Donaldsonville, sold his place, last winter, for \$20,000, containing 600 arpents, without stock or tools—300 arpents in cultivation, with sugar house and engine and two moderate dwelling houses, with other buildings. The place made 100 hogsheads of sugar last year and 110 the year before, with plenty of corn. The corn on hand sold with the place. The price of an adjoining place is \$20,000 for 370 arpents. A general average price of sugar lands is \$50 an arpent, including improvements.

Thomas Pugh's Plantation.—This is one of the best in the state. Not the largest, though quite enough so to satisfy any man of moderate desires, as the value of the annual crop is from \$30,000 to \$40,000. Mr. P. owns here about 3,000 arpents—1,000 cleared, 550 in cane, 250 in corn, and 200 in pasture, yards, gardens, &c. Of the first-named crop, 440 arpents made 700 hogsheads of sugar, and about 60 gallons of molasses to the hogshead. The remainder of the cane was reserved for seed planting. One acre of cane is required to plant five acres. Mr. P. has 100 working hands, producing about seven hogsheads of sugar to each. But this is not all profit, for the annual expenses upon sugar plantations generally, will average about \$100 to the hand.

As this amount will appear so enormous to some of my readers, let me give the items upon this place last year:—

Wages of overseer per annum,	\$1,200.00
“ engineer, tending sawmill and sugar house,	700.00
Average annual outlay for mules,	1,000.00
“ “ to keep up supply of plows, carts, wagons, spades, hoes, chains, harness, nails, iron for blacksmith shop, &c.,	1,000.00
Average annual outlay for repairs of engines, mills, and kettles,	200.00
Shoes, (from the bills of 1848.)	475.00
Cotton cloth, for clothing hands,	800.00
Woolen “ “ “	444.00
Woolen blankets,	200.00
225 barrels of mess pork, at average of \$10,	2,250.00
50 barrels of flour, (one to each family at Christmas,)	225.00
Hoop poles, for sugar and molasses casks,	200.00
Oil for sugar house,	175.00
Physician's bill and medicines, (\$1.75 a head,)	350.00
Taxes and other incidental expenses for sundries unenumerated,	200.00
The interest upon the estimated value of the plantation and all upon it, would be, at 8 per cent.,	16,501.20

\$25,920.20

Nothing for family expenses is included in the above estimates.

Mr. Pugh has been upon this place 24 years, and

never bought corn but one year. His average yield per acre upon new land is thirty bushels. And that is double the usual average of the state, I think. The quality of his soil is above the average. Next to the bayou it is considerably sandy, but grows more stiff as we go back toward the swamp.

The estimated value of this plantation is as follows:—

1,600 arpents of land, (1,000 cultivated and 600 timber,) at \$50,	\$80,000
1,400 arpents back lands, (cypress swamp,) cost \$1.25,	1,750
The mansion house being a new one is estimated at cost over and above the ordinary value of land,	30,000
201 negroes, at average of \$400 each,	80,400
60 farm mules and horses, at average of \$100 each,	6,000
6 yoke of oxen, \$40 a yoke,	240
Other stock and moveables, say	1,000
16 carts at \$50 each, and 1 wagon \$75,	875
Plows and other tools, say	2,000
The stock of corn for use in crib, 10,000 bushels at 40 cts.,	4,000
	\$206,265

To show that the estimate for clothing and provisions is not too high, I will give the regular allowance to each adult, which is as follows:—4 cotton shirts; 2 cotton pants; 1 cotton jacket; 1 woolen jacket; 1 pair of woolen pants; 1 wool hat; 1 straw hat; 1 blanket; 3 pair of shoes; 2 woolen shirts (to a part only); a calico dress and handkerchief extra to each woman and girl, besides clothing for house servants. All the clothing is cut and made under the superintendence of Mrs. Pugh, who, at least, is one southern woman that “knoweth the way of her own household.”

I will now give the feeding rations of this plantation, just to show that these laborers are not starved. Some plantations feed even higher, but the average is a little less. Every name upon the working list draws a peck and a half of good, sweet corn meal a week, and five and a quarter pounds of mess pork, besides vegetables. Then all children are fed separately. Besides, a barrel of molasses is dealt out every week, and a barrel of flour to each family at Christmas. Rations of fresh meat are occasionally given.

Mr. Pugh's overseer is a well-bred Yankee carpenter, by the name of Munson, from New Haven, Connecticut. And I wish here to remark, that I believe there is a rapid improvement going on in the character of this important class of persons to all southern planters. Educated and better men than formerly are employed, very much to the advantage of all concerned.

The buildings on this plantation are well worthy the attention of other planters desiring to make improvements. The mansion is not the most showy, but is one of the most commodious and excellent dwellings in the state. The main building, 60 by 68 feet, is two stories, the wings only one, and yet there are 600,000 bricks in the walls.

Next in importance to the dwelling, and upon nearly all plantations, exceeding it, is the sugar

house. Mr. Pugh's is 40 by 340 feet, with an extensive cane shed at one end, laid with iron rails, for cars to bring up the cane from where the carts drop it, to the cane carrier, which elevates it about fifteen feet to the mill, from which the bagasse falls into carts, and the juice runs to the vats, where it is cleansed by the "Spansburg process," and thence runs to the kettles; thence to the coolers, and from there the sugar is carried upon railroad cars along lines of rails between the rows of hog-heads to the farther end of the building.

In a country where labor-saving machinery is so rarely seen, the excellent arrangements here are more worthy of attention.

Then, again, at the stable, we find another railroad labor-saving contrivance, that might well be copied by nine hundred and ninety-nine other planters. The stable is 40 by 230 feet, divided into 62 stalls, each seven feet wide. The mules all stand with their heads to the centre passage, seven feet wide, through which a railroad car brings corn and fodder from the corn house annexed at one end, and the animals are fed with a very small amount of labor. Behind the mules, upon each side, there is a good passage way, and each animal soon learns to know his place, where he is fastened by a broad strap around the neck, and a stout chain made fast to the stall so that it is always there. All the feeding is done by one careful hand, who is held responsible that everything appertaining to the stable is as it should be. This is a much better arrangement than trusting every Tom, Dick, and Harry, to feed the animal he has been using; and just a trifle superior to the very common practice of turning horses and mules all together into "the lot," to eat corn and fodder all from one trough, and at the same time keep up a constant fight over it. For it is a truth that many a plantation has not a stable upon it. This is perhaps more the case in Mississippi than in Louisiana. But there are plenty of planters in both states who might profit by a visit to Mr. Thomas Pugh.

REARING AND MANAGEMENT OF POULTRY.— No. 2.

Range and Domestic Accommodation of Poultry.—Whatever number or breed of fowls one may have selected for keeping, provision must be made for their comfort and safety. Those attached to farm houses lead, in many respects, a happy life. They have good air and plenty of room, and generally with no lack of food. They wander about the farm yard, the orchard, and the lawn, visit the adjacent gardens and fields, travel over the pastures, through the highways or lanes, troop around the barn, and enjoy total freedom. To the advantage of pure air, they usually have that of pure water, and the opportunity of varying their diet by picking up insects and their larvæ; and a store of pebbles, gravel, old mortar, and other calcareous matter, which they require, is always at their command. So far, they lead a comfortable and natural life; but how are they housed at night? In many instances, in a proper and well-built poultry house, with perches judiciously arranged, with boxes lined with straw for the laying and sitting hens; but often in places utterly unfitted for them. For in-

stance, numerous flocks of hens will be lodged under the roof of some large, open shed, above the cattle, wagons, or carts, which receive an abundance of their droppings; others take shelter in the barns, stables, cider mill, pig pen, out-houses, &c., while not a few may be found roosting on the branches of some favorite tree. This want of order cannot be too strongly condemned, as hens, having no proper laying places, select such situations as chance may offer them, not unfrequently in obscure places of concealment, so that their eggs are devoured by vermin or are lost.

Those who intend to rear fowls, should have a distinct yard, with a warm aspect, well fenced, secure from vermin and thieves, sufficiently inclined to be always dry, and supplied with gravel, old mortar, (not quick lime,) or chalk, brick dust, and with sand or ashes for the fowls to bask or roll in. If possible, a stream of running water should pass through the yard; but if this cannot be done, a trough filled with fresh water every morning may be substituted. A want of water, of which all kinds of poultry are fond, produces constipation of the bowels and inflammatory diseases. A contiguous field or pasture, however, whenever it can be had, would in all cases be preferred.

A fowl house should be dry, well roofed, and fronting the east or south; and if practicable, in a cold climate, it should be provided with a stove or some other means for heating—warmth being very conducive to health and laying, though extreme heat has the contrary effect. The dormitory, or roost, should be well ventilated by means of two lattice windows, at opposite ends of the building, and it would be desirable to have one or more apertures through the roof for the escape of foul air. The sitting apartment, also, should be well ventilated by means of a large lattice window, in the side of the house, and holes through the ceiling, or roof. If kept moderately dark, it will contribute to the quietude of the hens, and thus favor the process of incubation. The sitting room should be provided with boxes or troughs, well supplied with fresh water and proper food for the hens, during the hatching period, from which they can partake at all times, at will. The laying room, in winter, should have similar boxes or troughs, containing old mortar, broken oyster shells, brick dust, gravel, and ashes, as well as a liberal supply of proper drink and food. The perches, or roosting poles, should be so arranged that one row of fowls should not rest directly above another. They should be so constructed as to enable the fowls to ascend and descend by means of ladders, or steps, without making much use of their wings; for, heavy fowls fly up to their roosts with difficulty, and often injure themselves by descending, as they alight heavily upon the ground.

Where the fowls have the range of an orchard, or a wide, dry, sandy pasture, or field, and are able to procure clean water, a good poultry house is all that is essential, though even then an enclosure, or yard, is desirable for the safety and better management of the young broods. It should be open and airy, its soil dry, and sheltered from cold, wintry winds. A simple shed, moreover, should be erected in some suitable spot, in order to afford a screen to the fowls from the hot rays of the mid-

day sun, in summer, and from heavy rain storms and showers. Should there be no access to a pasture, orchard, or field, it is desirable that a portion of the yard should be laid down with turf, and the larger the yard, the better the accommodation.

Cleanliness, both in the poultry house and in the yard, is indispensable. This, with as free a circulation as possible, and a proper space for the fowls to run in, is necessary to insure success, as in narrow and confined situations they never do so well. A sickly fowl ought to be separated immediately from the rest of the flock, and removed to some proper place, where they can remain in seclusion, not only because the disease may be contagious, but for the sake of safety and quietude of the fowl itself. Meagre, pining fowls are frequently objects of dislike, not only to the cock, which is apt to maltreat them, but even to the hens, that evince their hostility and rancor to such a degree, that, sometimes, they actually destroy their more unfortunate companions.

Every poultry house should be provided with wooden nest boxes, filled with straw. If the plan be adopted, as delineated in fig. 73, at p. 281, of the current volume, sliding nest boxes, or drawers, *n, o*, may be constructed twenty-eight inches long, fourteen inches wide, and ten inches deep, partitioned in the middle, so as to leave two compartments in each, fourteen inches square. On a level with the tables, each of which is designed to be two feet wide, and extending three feet above the ground, let there be cut through the partition between the laying and sitting apartments, an aperture the whole length of the rooms, ten inches high, or sufficiently large to receive these nest boxes, or drawers, so that one half of each will be in the laying room, and the other half in the sitting apartment, leaving a space nine or ten inches wide on each table for the hens to alight upon, and deliberately enter their nests, without breaking their eggs. When a hen is disposed to sit, the eggs may be put under her, and one or two nights after, the ends of the nest box may be shifted, so that she will be in the sitting room, where she may remain in perfect quietude till she hatches her brood. It is not at all required to have as many nests as hens, as one might suppose; because they have not all occasion to occupy them at the same time; besides, they are so far from having a repugnance to lay in a common receptacle, that the sight of an egg stimulates them to lay. It is true, nevertheless, that the most secluded and darkened nests are those which the hens prefer, particularly when they are inclined to sit.

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TO KEEP A STOVE BRIGHT BY TWO APPLICATIONS A YEAR.—Make a weak alum water, and mix British lustre with it, perhaps two teaspoonfuls to a gill of alum water; let the stove be cold; brush it with the mixture; then take a dry brush and rub it till it is perfectly dry. Should any part, before polishing, become so dry as to look grey, moisten with a wet brush and proceed as before.

—
VENTILATION.—As every adult human being inhales about sixty gallons of air per hour, the necessity of attending to ventilation in close apartments is evident.

IMPORTED CATTLE.

IN my communication in the August number of the *Agriculturist*, I omitted to include the following, as I purposed:—

The cow *Waterloo V.*, is now on the ocean, and will, in September, be in America. She was bred by Thomas Bates, Esq., of Kirkleavington, England, and was got by his crack prize bull, Duke of Northumberland, (1,940,) her dam, *Waterloo III.*, by Norfolk, (2,377,) grandam, *Waterloo I.*, by *Waterloo*, (2,816,) great grandam, *Lady Antrim*, by *Waterloo*, (2,816,) Anna, by *Lawnslieves*, (365,) *Angelina*, by *Phenomenon*, (491,) Anna *Boleyne*, by *Favorite*, (252,) *Princess*, by *Favorite*, (252,) *Brighteyes*, by *Favorite*, (252,) *Brighteyes*, by *Hubback*, (319,) *Brighteyes*, by *Snowdon's bull*, (612,) *Duchess of Athol*, by *Masterman's bull*, (422,) *Beauty*, by *Harrison's bull*, (292,) *Tripes*, by the *Studley bull*, (626,) out of a cow, which, with her dam, was bred by Mr. Stephenson, of Ketton, great grandfather of the present Mr. Stephenson of Wolviston.

It will be seen that this cow, *Waterloo V.*, is nearly full sister in blood of 3d Duke of Cambridge, (5,941,) the bull which I brought from England. Norfolk, (2,377,) sire of the dam of *Waterloo V.*, was got by Mr. Bates's second *Hubback*, (1,423,) dam *Nonpareil*, by *Magnet*, (2,240,) grand dam by R. Colling's *North Star*, (459,) great grand dam, *Young Sally*, (bred by R. Colling,) by *Alexander*, (1,623,) &c.

Waterloo is a grand cow—by far the best of all that have ever come to America from Mr. Bates's herd; and I am enabled to make the comparison, having seen every cow, bred by Mr. Bates, which has come to America. The only one imported from Mr. Bates's herd, at all approaching her in style, quality, and excellence, was the cow *Rose of Sharon*, (owned by the Ohio Company,) by Mr. Stephenson's *Belvedere* (1,706). The public will at length, in *Waterloo V.*, behold a fitting representative of Mr. Bates's herd as to cows, as they have in 3d Duke of Cambridge as to bulls.

When in England, I selected for Col. Sherwood, from Mr. Stephenson's herd, the heifer *Red Rose 2d*, by *Napier*, (6,238,) dam *Tuberose*, by *South Durham*, (5,281,) grand dam *Rose Ann*, by *Bellerophon*, (3,119,) &c., as in the pedigree of *Princess III.*, August number of *Agriculturist*. *Red Rose 2d*, was left in England to be bulled by Mr. Stephenson's very superior bull, *Earl of Chatham*. She will be at Col. Sherwood's, in September instant.

It will be seen that I have been careful to select from the *Princess* tribe of shorthorns, not only those at present in America, but those now coming.

In addition to these fine imported animals to which 3d Duke of Cambridge is to be bred, he will be bred to cows owned by Col. Sherwood, and possessing as much of Mr. Bates's blood as any other in America.

In 1839, Mr. Cope, of West Chester, Pennsylvania, imported from England the bull *Yorkshireman*, (5,700,) bred by Mr. Bates, and got by Mr. Bates's *Shorttail*, (2,621,) dam *Blanche*, by *Belvedere*, (1,706,) grand dam *Lupin*, by *Belvedere*, (1,706,) *Tulip*, by *Lancaster*, (360,) *Ruby*, by *Petrarch*, (488,) *Major*, (397,) *Stranger*, by son of *Punch*, (331,) *Old Roany*, by grand son of *Punch*, (531,) *Roaned*

Heifer, by Checks, (132,) Lockburn Sall, by John Coates' bull (148). This pedigree it will be seen is both long and rich. Mr. Cope sold Yorkshireman to Mr. Rotch, of Otsego county, N. Y. While in Mr. R's possession, Col. Sherwood bred cows to him. On the arrival of 3d Duke of Cambridge, Col. S. purchased several young cows of Mr. Rotch, got by Yorkshireman, and of approved pedigrees.

In 1845, Col. Sherwood purchased of Mr. Vail, of Troy, N. Y., the bull Symmetry, (166, in the American Herd Book,) a full brother of Mr. Vail's bull Meteor, got by Mr. Vail's imported Duke of Wellington, (3,654,) bred by Mr. Bates, out of Mr. Vail's imported Duchess, (bred by Mr. Bates,) by Duke of Northumberland, (1,940,) &c. Col. Sherwood has females, the get of Symmetry, out of cows got by Yorkshireman. All these females have been or are being bred to 3d Duke of Cambridge.

A. STEVENS.

New York, September, 1849.

DEATH OF THOMAS BATES.

THIS distinguished breeder and eminent farmer died at his residence, Kirkleavington, Yorkshire, on the 26th of July last. Although he went down to his grave full of years and honors, still there are few living whose death we should more deeply deplore. He was so hospitable and kind to us, when traveling in England in the summer of 1841, that we shall ever cherish his memory with gratitude and affection.

Mr. Bates was of middle height, very erect, and so active in his movements, that, although about 30 years our senior, we found it quite difficult to keep up to him in the various long walks we took together, over the beautiful estates of England. His features were regular, his eyes of a deep blue, and particularly fine, and his complexion as blooming almost as that of a young girl. He was a man of great energy, intelligence, enterprise, and of most indomitable perseverance under difficulties or opposition. His father was a highly respectable farmer, and breeder of improved cattle, and brought his son up to the same profession. Early in life, he became acquainted with the Collings, and was a great admirer of their course of breeding. He endeavored to induce them, before retiring from business, to breed the choice of their short-horn stock exclusively together, assuring them if they did so, they would produce such animals as the world had not yet seen. This choice was the Duchess, the Princess, and the Red-Rose tribes of cattle, whose blood Mr. Bates subsequently succeeded in commingling, and thus produced animals more perfect than were ever before known in England. This was a great achievement, one that did honor to his name, and of which he might be justly proud.

Mr. Bates was a member of the church of England, of untiring benevolence, and one of the most active and energetic in Great Britain in forming the first Bible Societies, and in the distribution of the word of God. Long will the good deeds he has done be held in remembrance in York and Durham, and the neighboring counties.

Mr. Bates died a bachelor, and has left a fine estate worth probably at least half a million of

dollars, all of which he had himself accumulated by his own enterprise, industry, and skill.

FOLDING LADDER.

FROM its lightness, compact form, and the facility with which it can be carried about, the ladder denoted in the adjoining cut is the best we have ever seen. It is so constructed that it can be folded up in the form of a pole, when not in use; and consequently will occupy but little room, and can the more easily be conveyed from place to place. It is very convenient for the use of stores, warehouses, dwellings, and for plucking fruit from high vines and trees.

The letter *a* shows the ladder when opened, and *b*, its appearance when closed. The rungs are fastened by pivots at both ends, on which they freely turn; and when the ladder is folded up, they are admitted into the side pieces by means of grooves.

These ladders may be constructed of any length, less than fifteen feet, at 30 cents per foot, and are offered for sale at the Agricultural Warehouse and Seed Store of A. B. Allen & Co., 189 and 191 Water street, New York.

Whenever they are required to be of a greater length than fifteen feet, the rate per foot must necessarily be increased.



a b
FIG. 82.

FARM OF MR. LEWIS G. MORRIS.

THIS beautiful farm lies upon the Harlem River, in Morrisania, about one mile north of the High Bridge. Mr. Morris is rapidly getting it into a high state of improvement, and it will not be long before its general crops will be of greatly-increased value.

Orchards.—Among other things, Mr. M. is paying much attention to fruit of a choice quality, orchards of which he is planting in various parts of his farm. The apple trees are set out 40 feet apart, and between each of these is a peach tree, making the distances only 20 feet. But before the apple trees get much grown, the peach trees will have become decayed, and may be cut down. A pear tree is also set equidistant from each four apple trees in two rows, which gives the orchard a quincunx form. This is probably one of the best methods of planting, to economise room, which can be adopted.

After setting out the trees, Mr. M. places a moderate quantity of straw or marsh hay around each, and then covers with stones. This keeps the soil cool and moist; and, however dry the season, he rarely loses a tree. It also keeps the ground firm about the trees, and prevents the body swaying to and fro in every wind, to the great disturbance and injury of the roots. Another advantage, is, it frequently supercedes the necessity of staking.

Farm Buildings.—We were never more struck

with the advantage of placing farm buildings on a moderately inclined side hill, than here. The barn is three stories high; loaded teams can be driven from the highest part of the ground into the upper story. Here they unload the wheat, rye, oats, &c., in sheaf, where it is threshed by a machine, the straw pitched into the yard and stacked or mowed away in the same loft, while the grain falls through a stationary separator in the floor, into a fanning mill in the second story; and after passing through this, it is conducted by spouts into bins in the third story. The second story is appropriated principally to the storage of hay, and into this the teams also are driven and unloaded. All this saves the slow and painful labor of pitching on a high scaffold or mow. The first story is under ground on one side, and is devoted to stabling. Here is an upright horse power, which propels the threshing, fanning mill, hay cutter, mill for grinding grain, and other machinery. The barnyards are spacious, and well arranged for the stock and saving manure.

A Liquid-Manure Tank.—The lawn descends a few feet on the north side of the house, at a suitable distance from which, Mr. Morris has excavated the earth, and built a stone-cemented tank, to receive the wash from the kitchen and water closets. This tank is covered with sod, and cannot be seen from the house nor lawn. An opening is left on the north side for a cart to back up to it. The driver then turns a cock in the tank, and the liquid runs out into the cask on the cart. When full, he drives where it is to be used, and by means of a short hose, distributes the liquid where required. It has been found highly beneficial this season in watering young fruit trees. This is the best contrived tank we have yet seen, and we recommend its adoption wherever the ground inclines from the house, and from the stables also. Even the opening to it can be completely screened from view, if desired. When we first saw it, we supposed it was an ice house, so neatly is it finished.

Improved Stock.—Mr. Morris is a great amateur, and no inconsiderable breeder of fine stock. He began his improvements about ten years since, by importing some of the celebrated Dutch breed of milking cows. To these, he added the very best milkers he could find in this country, such as pure natives, and crosses of the Dutch, Durham, &c. Some of these animals were very extraordinary in their milking properties. Highly fed, they would give from 25 to 30 quarts of milk per day, for several weeks in succession, after calving; and a few of them, if permitted, would hold their milk, all the year round, till calving time again.

But after assembling this stock in his yard, Mr. Morris saw with the quick eye of a refined breeder, that it was wanting, as a whole, in some desirable qualities. To obtain these, then, was a great desideratum. After maturely considering the whole matter, and taking various crosses, he at length settled upon using shorthorn bulls, selected from the best milking families. These, after a few generations, produced him what he wanted, and he can now show a beautiful herd of high grade cows and heifers, which have not deteriorated from the great milking properties of their ancestors; and to this, not only desirable, but, as we hold, absolutely

indispensable quality of a good cow, he has super-added that of improved shape, better handling, and earlier maturity. As an instance of this last quality, his heifers now generally calve at two years old, and attain full size and maturity at three and a half to four years. Our readers will recollect that native cows can scarce ever calve without injury till three years old, and that they do not attain full maturity till five or six. Mr. Morris thus gains one year upon the unimproved stock, which is certainly a matter of no trifling consideration to the breeder.

As large towns and cities are increasing rapidly, now, throughout the Union, it is becoming a matter of national importance to supply their population with *pure milk of a good quality*; otherwise, diseases of a very fatal kind ensue, particularly among infants and small children. But how can *good milk* be obtained if we have not *good animals* to produce it?

Experienced dairymen, who have been engaged in supplying towns and cities with milk, for years, inform us that the average product varies from six to ten quarts per day for each cow, for the first six months after calving. And this, be it remembered, is from *picked*, native cows. Now, if an improved race can be bred, which will average from twelve to fifteen quarts per day, what an addition this would be to the resources of the country. This alone would add millions to its annual productive wealth; for recollect, it costs no more to keep a good cow than it does a poor one, and frequently, owing to her highly-improved, digestive and distributing powers, it does not cost so much.

What a desirable thing, could all the farmers of the United States be convinced of the importance of this, as well as other improvements. How much it would add to their comfort, their happiness, and their power of doing good. Would that they could see this in the light that we do; we should not then be obliged to plead the cause of improvement so often and so vainly as we now do.

The Mansion of Mr. Morris is built of hewn stone, and is in the Italian style of architecture. It is roomy, elegant, and very commodious. It stands on elevated ground, and is surrounded on all sides by a fine, wide lawn, studded with beautiful flowers, shrubbery, and trees. The views from the house are varied and commanding. They embrace Staten Island, the city of New York, the Hudson, Harlem and East Rivers, together with the country around for a distance of 30 miles or more. It is really a desirable spot, and if we are ever so lucky as to be able to possess the like of it, we shall think ourselves particularly fortunate. We then would go to breeding shorthorns, and other fine stock, again; besides growing huge crops, and indulging in other useful fancies, which it is now idle in us to name.

ALPACAS FOR THE UNITED STATES.—Mr. L. T. Brown, of the U. S. Legation, near Bolivia, has written to the Managers of the American Institute, of New York, offering to procure alpacas, vicuñas, or llamas, for American agriculturists. Their cost in Bolivia is from three to five dollars each; but on account of the difficulty of transportation, they would be worth \$75 each delivered in New York.

MARSHALL BUGEAUD, DUKE OF ISLY, AS A FARMER.

AMONG the victims of cholera at Paris, in the month of June last, says a correspondent of the Observer, was the celebrated soldier whose name heads this article. Of his military and political achievements it is not our province to speak in these pages; but it is of his efforts in the improvement of agriculture at his country seat, between Limonsin and Perigord. Here he set an example worthy of all praise, and one which we regret to say is not oftener followed by heroes and politicians.

The canton where he lived, was one of the poorest and most backward regions in France. The peasantry were ill-educated, averse to all innovation upon old modes of farming; and their fields did not yield half what they ought to produce. Marshall Bugeaud undertook to effect a revolution in the agriculture of his province. He met at first with great difficulties. His neighbors laughed at him, and said that with his whimsies he would reduce himself to beggary. His own domestics resisted sily his orders. Every body called him a wild schemer; however, the Marshall stood firm. He even put his own hand to implements of agriculture; he learnt to handle the hoe and the plow. He was the first up in the morning, and the last to retire at night; he led, and encouraged his servants, and his manly perseverance triumphed at last over all obstacles. He introduced into his domains the use of new plows, and other valuable inventions. Far from being ruined, as his neighbors thought, he soon *doubled his property*, and then he had many imitators. In short, his example worked wonders, and at the end of a few years, this canton had completely changed its face.

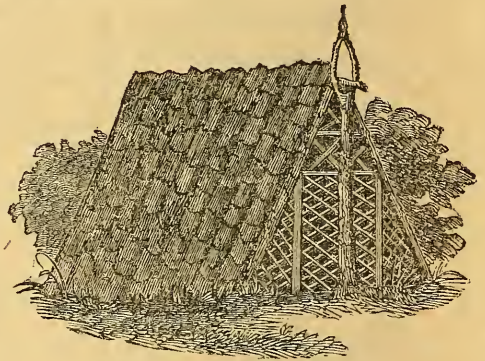
Marshall Bugeaud, throughout the whole course of his military career, always preserved a decided taste for agriculture. He loved to converse with the peasants, and he gave them good advice. He thought, and rightly, I believe, that it would be happy for France if a part of the laboring population that encumber the large towns would turn their attention to agricultural pursuits. "I sigh," he says in one of his pamphlets, addressed to the people, "when I see in our cities such crowds of people walking about doing nothing, while the fields lack laborers. Many useful things are not done. There is a rich mine to work, and the labor would conduce to the morality of the nation. The peasant, in times of national trouble, does not suffer famine; he sows his grain, he has always a bit of bread, and can wait till quiet is restored. The workman in the factory, on the contrary, when labor is stopped by political revolutions, falls immediately into want and idleness. Then intriguing, ambitious men seize upon him, inflame his passions, impel him to engage in mobs, to spill his blood to feed their ambition. Oh! detestable deceivers of the people, how worthy of contempt ye are."

This was a fixed opinion of the illustrious Marshall. He repeated constantly, and to the end of his life, that the only effectual means to restore the public tranquility, was to diminish the laboring class in cities, and to increase it in the country. But it is easier said than done. How can the

workmen in factories be induced to quit their shops in order to lead the hard life of farmers? They lack the physical force, the taste, capital, and skill; and they prefer to suffer in our cities, rather than to go in the heat of the sun and gail at the harvest.

A RUSTIC POULTRY HOUSE.

THE poultry house described in your September number being rather expensive for many people, I send a sketch, which certainly has the merit of cheapness, if nothing else to recommend it. I notice in almost every country town I travel through, miserable, patched-up, unsightly hovels, occupied as the home for our domestic fowls, though I should think, from their filthy appearance generally, that they were not fit for the pigs to live in. I think this displays very little taste, especially when we consider that with the same labor and materials, expended in a different manner, in "rustic work," for instance, a structure might be made, that would perhaps be rather ornamental than otherwise, certainly



RUSTIC POULTRY HOUSE.—FIG. 83.

not disgraceful, and at the same time be as convenient and useful. This kind of work can easily be made by any person accustomed to the use of the saw and axe. All that is required is a little taste, having your plan well digested before commencing, so as to require no alterations.

For the construction of a piece of rustic work like fig. 83, after selecting the situation, join four pieces of saplings in an oblong shape for the sills; confine them to the ground; erect at the middle of each of the two ends a forked post, of suitable height, in order to make the sides quite steep; join these with a ridge pole; rough-board it from the apex downward by the sills to the ground; then cover it with bark, roughly cut in pieces a foot square, laid on and confined in the same manner as ordinary shingles; fix the back end in the same way; and the front can be latticed with little poles with the bark on, arranged diamond fashion, as shown in the sketch—a part to be made with hinges for a door.

Something after this style, placed on the bank of a small stream, and half covered with climbing plants, would make a very pretty home for aquatic fowls.

J. B. D.

Boston, September, 1849.

A FLIGHT THROUGH CONNECTICUT.

IMMEDIATELY after leaving the noise and confusion of that great "Babel," known as New York, and even before I was fairly out of the purlieus, I saw large tracts of land, that, notwithstanding its iron-bound, rocky nature, if cultivated, even with a tithe of the care that John Chinaman bestows upon his soil, it might be made to yield a good support to thousands of the poor creatures that are dragging out a miserable existence in the filthy courts and alleys of the city; while here, within an hour's walk, lie thousands of acres of productive soil, where the healthy atmosphere is such as God gives to the mountaineer, instead of that made for human lungs by the inhuman folly of man in the dark, damp, city cellars, where the spirit of cholera finds the seeds already sown that will produce him an abundant crop.

Much of the land above referred to is covered with bushes, or miserable little half-starved patches of cultivation, or with shanties that are a degree, at least, below the western log cabin. And this is within the sound of the City-Hall bell. And this is "the age of agricultural improvement, is it? The country where we give thousands of dollars annually in premiums for the exhibition of the fattest bulls and boars, and daily proclaim to the world what a great improving agricultural country this is!

But let us proceed. What do we see along the line of railroad towards New Haven? Why the same old stone walls and rickety rail fences, bush pastures, bog meadows, alder swamps, stony fields, and scanty, because unmanured, crops, that were to be seen in the same places fifty years ago. Have these people ever heard of the fact that they might purchase an article called "guano," which has a similar effect upon land that is attributed to manure?

Beyond New Haven, the road passes through several miles of a poor sandy plain, which looks as though it belonged to the "piney-woods" region of South Carolina, rather than to Connecticut. This is perhaps too sterile to be improved with profit; yet, it is a question with me, whether more profit, if we count long life and good health anything, might not be made from this sandy waste, than from some of the rich prairies and bottoms of the great west, California included. In fact, notwithstanding that agriculture, in general, seems to have been conducted in Connecticut for a century or two, upon the same identical "American system" of skin, shave, and waste the soil, and "do as father did," yet every now and then we pass a spot where everything around shows that the light of science, yea, agricultural science, has penetrated far enough to show that, if men would, they might make all of these old, sterile, fields not only productive, but actually more surely profitable than any other employment. But the truth is, and cannot or should not be disguised, the farmers of Connecticut, as a body, have not, do not, and I fear will not, even read anything that is calculated to inform their minds upon the subject of improving and renovating their old worn-out soil.

I left the cars at Meriden, and took a tour through the state eastward, making many stops during a week, and in all the time I never saw nor heard of but one subscriber to an agricultural paper, and he

was a gunsmith instead of a farmer. I saw many men mowing many acres that would not produce 500 lbs. of hay to the acre; and at the same time, it was self-evident to me, that a moderate expenditure of labor in under draining, grubbing up bushes and bogs, straightening channels of streams, carrying muck from swamps to gravelly knolls, and a little outlay for manure, lime, guano, &c., would make the same land produce two tons to the acre; and that of a far better quality—though the blackberry crop might be lessened. My attention was particularly drawn to one "meadow," (swamp,) which I have known for more than thirty years, that annually produces about half or three quarters of a ton of "bog-meadow hay" per acre, which has been carried out upon poles every one of those years; for no animal can travel over it. I wish I could recount the number of cattle that have been mired and lost, while trying to get in, to crop the early spring grass upon that little green spot. It contains about seven acres, in an oval shape, surrounded by rocky hills, and was undoubtedly once a shallow pond; for the muck is from one foot to four feet deep, lying upon a hard bottom. It is not apparently fed by springs, but in a wet time is filled with water from the surrounding hills, which, when it rises above the surface, runs off into a little brook at the lower end. Now this is the only level, smooth piece of mowing land upon the farm, and it has been mowed and "poled" probably more than half a century. Let us put the account into figures, in the shape of debit and credit.

THE OLD POND MEADOW, Dr.

For the care and cultivation, ditching, improving, manuring, <i>nothing</i> . That's cheap. "Two times naught is nothing" (vide Daboll). "Set that down." "Yes, sir,"	0.00
To seven cows, heavy with calf, got mired and lost seven different springs, worth \$20 each,	140.00
To seven other cattle and horses that got mired at different times and were got out—damage and labor of getting them out, "dod rot 'em," \$3 each,	21.00
To extra labor of poling out hay for 50 years,	125.00
To sundry half pair of boots and shoes, mired down and lost, say one every year,	25.00
To going to the cedar swamp ten times, (twelve miles,) to cut new hay poles, (240 miles travel,) 4 cts. a mile,	9.60
	<u>\$320.60</u>

Contra.

50 crops of hay, 5 tons a year, at \$5 per ton,	\$250.00
50 crops of early spring grass, when feed is scarce, for pasture, very valuable, but good for nothing, because cattle can't get at it,	0.00
Fall feed, a little nipping around the	

edges, where the ground is a little dry, and grass ditto, not worth much; but let it balance the hay poles,	9.60
Consolation to the owner to think he always has hay on hand is worth as much as the old shoes and boots lost while poling it out,	25.00
Thinking what a nice piece of meadow that would be if it was drained, and having a "darn'd good mind to try it" every year for 50 years, is certainly worth four-and-sixpence a year, Connecticut currency, and cheap at that,	37.00
	<hr/>
	\$322.10
	320.60
	<hr/>
Balance in favor of the "Old Pond Meadow,"	\$1.50

Now let us suppose that this land had been judiciously drained, and how would the figures look? Why something like this:

THE OLD POND MEADOW,	Dr.
To one month's labor in cutting a ditch through the centre, and around the edges, and about twenty rods to the brook,	\$30
To cutting and hauling off the bogs and burning them, say \$5 per acre,	35
To breaking up and seeding after the land becomes dry, say \$3 per acre,	21
To lime, ashes, and manure, average for 50 years, say \$3 per acre each year,	1,050
	<hr/>
	\$1,136

Notwithstanding this sum looks so enormous, let us see if the *per contra* will not show a better balance than the preceding account.

Contra.

For an average of 2 tons per acre of Timothy, red-top, and clover hay, upon seven acres for 50 years, (a low estimate, supposing it is all the time in grass, and that is 700 tons,) worth \$10 a ton,	\$7,000
The pasturage is worth 50 cents per acre per annum,	175
The dirt from the ditches and ashes from the bogs, to put upon the old gravelly hills around, is worth nearly as much as it cost to dig it, but say only	25
	<hr/>
	\$7,200

The balance then will be \$6,064 in favor of the improvement.

In fact, I have seen, during the present trip, a hundred just such tracts of land as the one described above, so far as facility of draining is concerned, and at present worthless. Now, is it not singular, shrewd as these Yankees are, that they should continue, generation after generation, to pole out the hay from their old bog meadows, and plow and plant some of the richest natural soil

upon their farms, that does not produce half a fair crop, for want of a few under drains, and that, too, in many places where the surface is covered with loose stones, that would serve admirably well for materials to build the drains with? But these people do not read. Nay, they do not plow. "Do not plow!" Nay, they do not plow. The little scratching that they give the land is unworthy of name of plowing. They will actually argue, that to plow deep will ruin the land, as it turns up the poor, unproductive earth. As for subsoil plowing, it is to them a sealed volume. We read in books and newspapers, daily, of the high state of improvements in New England. And in all the villages and manufacturing towns, and upon a great many farms, there is an air of thrift, neatness, and a sort of gentility of appearance, that gives character to the whole country. Then, again, among those who continue generation after generation, to pole out the old bog-meadow hay, and scratch over the bare surface of the gravel hills, or mow over the old fields, "three clips to a handful," there is an unceasing, never-tiring industry; and that, upon any soil, will make a show of thrift. If well directed into an improving channel that would constantly fertilize the soil, what a result would be produced!

I hope my Connecticut friends will not think that I use the lash too freely. I think they need it. They are, as a body, behind the age in agricultural improvements. Their children are all taught to read. But can there be found this day in any one of her district school houses, one single book calculated to teach their children how to cultivate the soil? No! for they think that it would be "book farming." The father thinks no one ever knew so much about farming as himself, and the son never conceived the idea that there was any art to learn, nor that any other person besides father could ever teach him anything about it. "Learn farming in school! Ha, ha! who ever heard of such a thing."

If Connecticut had nothing but her soil to depend upon to insure her prosperity, her citizens would have to learn agricultural improvement, or her people would themselves deteriorate. But let us rest a month, and then, by your leave, I will continue my trip to Boston.

SOLON ROBINSON.

July 10th, 1849.

PEELING AND BOILING POTATOES.—A loss of the most nutritious portion of the potato is incurred by peeling off the rind and parts directly underneath, as in these the nitrogenized matters, but no starch, chiefly reside, which are dissolved by cold water and coagulated by water while boiling. If potatoes, therefore, are thrown into cold water, and gradually heated, much of their nitrogenized principles will be extracted before the water reaches the point of ebullition; whereas, if it be made to boil before they are introduced, the coagulation will cause these matters to be retained within the tissue of the vegetables lying contiguous to the rind.

TO GREEN-TEA DRINKERS.—Most of the green teas consumed in England and the United States, are said to be colored by a preparation of indigo and plaster of Paris. To every 14½ lbs. of tea, one ounce of coloring matter is applied.

Ladies' Department.

BRUSHING AND PRESERVING CLOTHES.

If woollen clothing is very dusty, hang it on a "horse" or line, and beat it with a small rod or cane. Lay it on a clean board or table, and brush it well, first with a stiff brush, in order to remove the spots of mud, if any, and the coarsest of the dirt, and then with a softer one, to remove the dust and properly lay the nap. If the clothes are wet and spotted with dirt, dry them before brushing, and then rub out the spots with the hands. The hard brush should be used as little as possible, and then with a light hand, as it will, if roughly and constantly employed, soon render the garments threadbare.

Should there be spots of grease or tallow on the clothes, hold a piece of ignited paper, a hot iron, or a coal of fire, directly over them, sufficiently near as not to scorch the cloth, and they will immediately disappear by evaporation; or, lay a piece of thick, brown paper over the spot, and press it with a hot iron. If the oil or grease stains the paper, put on another piece, and repeat the operation till it ceases to become soiled.

After the clothes are brushed, they should be hung up in a clean place, free from dust; if intended to remain unused for some time, they should be laid away on the shelves of the clothes press or wardrobe, the place of which should always be in the driest situation possible, as otherwise, they would not only acquire an unpleasant smell, but gradually become mouldy and rotten.

USEFUL RECEIPTS.

A CORRESPONDENT has furnished us with the following household receipts:—

To Cook Rice.—Soak your rice in salt and water for seven hours, and then put it in fresh water and boil it—only ten minutes after it begins to boil; then empty it out in a colander before the fire until it drains and dries, when you will find a delicious dish, and every grain separated, answering the purpose of a large number of vegetables.

Rice Pudding.—Take half a pint of rice, six ounces of sugar, two quarts of milk, with a little salt, butter, and allspice; put cold into a hot oven, and bake two and a half hours.

Tomato Omelet.—Procure two quarts of perfectly ripe and fresh tomatoes, cut them carefully, and simmer for the space of two minutes over a tolerably quick fire. Cut a few onions, fine, and mix with them a due quantity of crumbled bread and a small lump of butter. When nearly done, beat up eight eggs, and mix them thoroughly with the mass by rapid stirring. In a few minutes, the dish will be done.

Tomato Dumplings.—Take the skin carefully from the tomato without rupturing the meat. The process of making, cooking, and saucing is the same as that pursued in forming and preparing apple dumplings.

Broiled Tomatoes.—Select the largest; cut them in two, and broil them over a moderate fire till done. Add a little butter or salt, and pepper, and you have an excellent dish.

To Preserve Bacon.—Make a strong ley of wood ashes; dip each piece of meat into it; let it dry; and then hang it up in the smoke house, where it will be free from the attack of insects or worms. The taste of the ley will only be perceived on the outside.

Boys' Department.

THE HORSE KNOWN BY HIS EARS.

The size, position, and motion of the ears of a horse are important points. Those rather small than large, placed not too far apart, erect and quick in motion, indicate both breeding and spirit; and if a horse is in the frequent habit of carrying one ear forward, and the other backward, and especially if he does so on a journey, he will generally possess both spirit and continuance. The stretching of the ears in contrary directions shows that he is attentive to everything that is passing around him, and while he is doing this, he cannot be much fatigued, nor likely soon to become so.

It has been remarked that few horses sleep without pointing one ear forward and the other backward, in order that they may receive notice of the approach of objects in any direction. When horses or mules march in company, at night, those in front direct their ears forward; those in the rear direct them backward; and those in the middle of the train turn them laterally or crosswise—the whole seemingly thus to be actuated by one feeling which watches their general safety.

The ear of the horse is one of the most beautiful parts about him, and by few things is the temper more surely indicated than by its motion. The ear is more intelligible even than the eye; and a person accustomed to the horse, can tell, by the expressive motion of that organ, almost all that he thinks or means. When a horse lays his ears flat back on his neck, he most assuredly is meditating mischief, and the bystander should be aware of his heels or his teeth. In play, the ears will be laid back, but not so decidedly nor so long. A quick change in their position, and more particularly the expression of the eye at the time, will distinguish between playfulness and vice.

The hearing of the horse is remarkably acute. A thousand vibrations of the air, too slight to make any impression on the human ear, are readily perceived by him. It is well known to every hunting man, that the cry of hounds will be recognized by the horse, and his ears will be erect, and he will be all spirit and impatience, a considerable time before the rider is conscious of the least sound.—*The Horse and His Rider.*

GATHERING AND PRESERVING NUTS.—This is the season for gathering and preserving chestnuts, hickory nuts, butternuts, &c. As soon as the heavy frosts appear, they may be shaken or beaten off the trees with poles, separated, if necessary, from the shells or burrs, and then thinly spread in some garret or airy loft to dry, where they should be kept until ready for sale or use. If suffered to be packed up in boxes or casks, before they are dry, all kinds of nuts will become musty and strong, greatly deteriorating in their value, whether they are sold or consumed at home.

FOREIGN AGRICULTURAL NEWS.

By the steamer *Europa*, we are in receipt of our foreign journals to 1st September.

MARKETS.—*Ashes* a material advance. *Cotton* advanced and then receded the past month, leaving it at about the same rates as per our last. *Flour* and *Wheat* a decline. *Indian Corn* remains unchanged. *Cheese* in great request. *Lard* a considerable advance. *Tobacco* an upward tendency. *Wool* the same.

The *Crops* throughout Europe are very abundant, and rather low prices must be anticipated.

The Potato Disease.—The old potato disease has re-appeared in Ireland, where the fields present evident marks of its devastation.

Death of Mehemet Ali.—His Highness Mehemet Ali, Pascha of Egypt, died at Alexandria on the 2d of August. On the day following, his remains were taken up to Cairo, where they were buried on the 4th, in the new alabaster mosque, built by himself, in that citadel.

Literary Prizes.—The Belgian government has offered a prize of 5,000 francs, and another of 1,000 francs with a gold medal. The first for the best work on general agriculture, and the second for the best treatise on the diseases of potatoes. Foreigners are invited to compete, and manuscripts are to be sent to the Minister for the Interior before the 1st of January next year.

To Destroy Weevils.—Corn and pea weevils, both in the egg, as well as in the perfect state, are easily destroyed by exposing them for a certain time in contact with carbonic-oxide gas.—*Agricultural Gazette.*

Query in Regard to the Potato Disease.—As a mere guess at a remedy for the potato disease, it may be worth the inquiry of geologists and chemists whether the native soil of the potato, in South America, contains any elements which are wanting, or deficient in that of Europe. Those who have been in volcanic districts are aware how every fissure and cranny of the earth is at least occasionally charged with gases of mixed composition, but especially sulphureous, which may be smelt, in still weather, by those walking on the surface, and which must have some influence on the vegetation of those regions. Mexico and the Andes are doubtless similarly circumstanced, and the peculiar constitution of plants, native to that range, may possibly have some dependence on those conditions of growth. Are the potatoes in the kingdom of Naples attacked by the disease? Because, if they are, the presence of sulphur in the soil is no preventive against the potato plague.—*Ibid.*

New Process for Preserving Wood.—M. Brochard's plan for preserving wood, which differs very little from other methods now in use, or at least proposed for the same purpose, is, first by means of a pneumatic apparatus, worked by a steam engine, to exhaust the wood of its sap and other watery liquids; then by means of compression, to force into the exhausted pores two other liquids, one after the other, which, combining in the interior, form an insoluble salt of iron. The author produced before the Academy of Sciences, at Paris, two pieces of deal, which had been experimented on, at Cette, by the chief engineer of the Ponts et Chaussées. These two pieces of wood had been used as piles, and had been covered by sea water to the depth of three or four yards; one of them which had not been in any way prepared, was very much attacked by the worm, whilst the other, which had been prepared in M. Brochard's way, was scarcely attacked at all.—*Foreign Journal.*

Extraordinary Invention.—A Mr. Appold has invented a remarkable machine, called the "Centrifugal Pump," for draining marshes, &c., and a most ingenious affair it is. You have heard of the turbine—a small box waterwheel, possessing extraordi-

nary capabilities for work. Well, Mr. Appold's model contains such a wheel made of tin, a little thicker, but no larger, than a halfpenny. This is fitted at the bottom of a square tube dipping into a small cistern containing water, which may represent a lake, &c. The little wheel being made to rotate with great velocity, throws up water rapidly into the tube above itself, until it overflows in a continuous stream at the top, and the volume of its stream is such as to deliver eight gallons per minute; and on applying a nozzle, the stream is driven to a distance of twenty feet. This, you will say, is a marvellous effect from so apparently insignificant a cause; but a wheel, about fifteen inches in diameter, exhibited at the same time, will deliver 1,800 gallons per minute; it requires to be worked by an engine of four-horse power. Mr. Appold has lately proposed to the engineer of the Dutch government to fix a similar wheel on the Haarlem Sea, now in process of being drained, by forty pumps, driven by steam. A centrifugal pump of forty feet in diameter would do more work than all the others put together, and would deliver—so the inventor asserts—1,500,000 gallons per minute. With such power at command, one would think we ought never more to hear of ships foundering at sea; and the emptying and reclamation of the Zuyder Zee resolves itself into a possibility.—*Ibid.*

Profits of Public Slaughter Houses in France.—In all cases where these have been built in France, the revenues have been such as to make such constructions good speculations. At Paris, in 1847, the gross revenues were 1,200,000 francs, nearly; the expenses, including *employés*, repairs, water, lighting, &c., were not 140,000 francs, leaving 1,060,000 francs net to pay the interest on a capital of 18,000,000 francs. In the town of Havre, the abattoirs are built upon 18½-year leases, and yet the proprietor makes money by his speculation. At Caen, the abattoirs produce a net revenue of 24,000 francs to pay the interest of a capital of 301,000 francs. Everywhere the results are about the same; nor can there be any reason to doubt that in England the results would be equally favorable. The butchers of Paris, at first, violently opposed the establishment of the abattoirs; but now they are so convinced of their utility and commodity, that they would almost as vigorously oppose any return to the former system. Indeed, it must evidently be to the interest of the butcher that his meat be killed in the most perfect condition, to ensure its preservation, and to satisfy the public that every precaution is taken to ensure a supply of wholesome meat.—*Builder.*

Hatching Chickens.—An American, named Williams, near Champigny, France, has an establishment for the artificial incubation of eggs. He has been very successful, following, as near as possible, the means adopted by the mother hen, in the application of the artificial heat. As in her case, he applies the heat from above, and following her instinct as his guide, he frequently removes the heat, leaving the eggs free, to imbibe the necessary amount of oxygen. So far, his success has been complete. He finds ready sale for all his broods, which are sent to market, when twenty days old. His furnaces are kept constantly at work to furnish *poulets* for the Paris markets.—*Paris Paper.*

Waterproof Composition for Cotton Cloth.—Take of old, pale linseed oil, 3 pints; sugar of lead, 1 oz.; and white resin, 4 oz. The sugar of lead must be ground with a small quantity of the oil, and then added to the remainder, incorporated with the resin by means of gentle heat. The composition is to be laid on with a brush, shortly after which it dries, on exposure to the air. White linen or cotton fabrics, for protecting tender plants and vines, covered with it, exclude as little light and heat as any other material except glass; besides, it does not mildew.—*English Paper.*

Editors' Table.

PROFESSOR JOHNSTON'S ADDRESS.—We listened with great pleasure and instruction to the very able address of Professor Johnston, who recently left England for the purpose of examining the agriculture of this country and the provinces of British America. Though the address required a full hour and a half in the delivery, it was listened to with unflagging interest till its close. Its main features, after the introduction, consisted in a succinct history of the present state of European agriculture, as exhibited in the several countries, most of which he has personally visited. The latter part of the address was on miscellaneous topics connected with the subject, in which various important suggestions were made for the advancement of this great interest. We shall soon see this valuable address scattered broadcast over the Union, and hope it may reach every farmer's fireside.

We understand Professor Johnston will not return to Europe before the ensuing spring, and we earnestly recommend to every society or community, who can appreciate the benefits of agricultural science, that, for their own interest, they offer him such remuneration as will ensure a course of his invaluable lectures. More particularly do we, of New York, owe it to ourselves and our community, that we secure from him a full course. This will come with much better effect from the Agricultural Board of the American Institute. The promotion of national objects and improvements should be one of its primary merits; and as the advancement of agriculture is professedly one of its leading objects, there will scarcely occur a more favorable opportunity of carrying out their patriotic purposes. Millions of American gold have here been worse than thrown away on English comedians and their cognate professions. An opportunity is now afforded where a few hundreds or thousands may be most worthily bestowed, and for our own lasting honor and advantage. We shall see if Americans have the enlightened self-interest—the wisdom to do it.

SALE OF STOCK BY MR. MORRIS.—We desire to call attention to the advertisement of Mr. Lewis G. Morris, in this number of our paper. His cows are celebrated for their milking qualities, and now is an excellent opportunity for dairy farmers to supply themselves with good milkers. The produce of a good milker, sold in this market, will net fifty dollars a year; while that of a poor one scarcely ever pays for her keep. Two railroads now run from this city through Westchester and Putnam counties, and this enables the farmers to send their milk daily to the city, for sale, at a high price. They have, therefore, every motive to induce them to improve the milking qualities of their cows. For a more particular notice of the breeding of Mr. Morris' stock, see an article on his farm, at page 318 of the current volume.

DEATH OF HENRY COLMAN.—We learn, with deep regret, that Mr. Colman died of fever, at Islington, London, on the 17th of August last. He had engaged his passage in the steamer Caledonia, and was to have sailed the day after his death. Mr. Colman was about 65 years old. His health had not been very good for several years. We received a letter from him, dated a few weeks previous to his demise, at which time he seemed in excellent spirits, and was anticipating a quick return to his native land. We had been personal friends for upwards of fifteen years.

Mr. Colman was a native of Boston, Massachusetts, and was educated for the ministry. He devoted himself assiduously to his profession, for several years, but having an unconquerable love for agriculture, after paying considerable attention to the cultivation of a

beautiful farm, at Deerfield, in the fertile valley of the Connecticut, he accepted an appointment from the Massachusetts Legislature, as Agricultural Commissioner for that commonwealth. Several volumes of valuable reports attest his zeal and fidelity in discharging the duties of that laborious office.

In the month of April, 1843, Mr. Colman embarked for England, with the intention of making an agricultural survey of Europe. The valuable information which he gathered, while abroad, may be found in his report, in ten parts, issued from time to time, in the course of his absence abroad.

Mr. Colman was a man of fine, commanding, personal appearance, very intelligent, with superior conversational powers, winning manners, and possessed one of the kindest and most benevolent hearts we ever knew. He made himself particularly agreeable abroad among all classes; and the death of few men is more regretted than his, by a large circle of friends and acquaintances. His last work published was a series of familiar letters to his friends while abroad. These abound with information, and are written in a singularly agreeable vein. We understand, while abroad, he gathered the materials for other works, which we trust his family will in due time give to the public.

NATIVE BANANAS.—The New-Orleans Picayune states that Mr. Benjamin Florence, of Lafayette, La., has raised some bananas not at all inferior to the West-India specimens. He has from 40 to 50 plants, each bunch containing from 150 to 180 fruits.

COMPARATIVE GROWTH OF PEAS.—Mr. Thomas Meeham, of Philadelphia, made an experiment with several kinds of peas and noted the periods of their harvesting. They were all sowed on the 3d of April, in the same soil and situation, and grew, in every respect, under equal circumstances. The time when each produced pods, fit for use, stands opposite their respective names.

Prince Albert,	June 10th.
Bishop's dwarf,	" 17th.
Thompson's dwarf,	" 17th.
Early May,	" 21st.
Early June,	" 21st.
Early frame,	" 21st.
Early Charlton,	" 21st.
Royal-dwarf marrow,	" 25th.
White marrow,	" 25th.
Black-eyed marrow,	" 25th.
Blue Prussian,	" 30th.
Blue Imperial,	" 30th.
Banksian marrow,	July 2d.
New mammoth,	" 2d.
Dwarf sugar,	" 2d.

INTERESTING AGRICULTURAL EXPERIMENTS.—The Philadelphia Ledger notices some recent experiments in wheat and flour which prove that both contain water, and that the quantity is more in cold countries than in warm. In Alsace, from 16 to 20 per cent. In England, from 14 to 17 per cent. In the United States, from 12 to 14 per cent. In Africa and Sicily, from 9 to 11 per cent. This accounts for the fact that the same weight of southern flour yields more bread than the northern. English wheat yields 13 pounds more to the quarter than the Scotch. Alabama flour yields 20 per cent. more than Cincinnati. And in general, American flour, according to the authority of one of the most extensive London bakers, absorbs 8 to 10 per cent. more than its own weight of water in being made into bread than the English. The warmer the country, the more is the water dried out of the grain before it ripens, and hence, when made into bread, it absorbs more water again, and is therefore more valuable.

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, SEPTEMBER 17, 1849.

ASHES, Pots,.....per 100 lbs.	\$7 00	to	\$7 12
Pearls,.....do.	6 50	"	6 62
BALE ROPE,.....lb.	9	"	11
BARK, Quercitron,.....ton,	23 00	"	30 00
BEANS, White,.....bush.	75	"	1 25
BEEFWAX, Am. Yellow,.....lb.	19	"	22
BOLT ROPE,.....do.	11	"	12
BONES, ground,.....bush.	40	"	55
BRISTLES, American,.....lb.	25	"	65
BUTTER, Table,.....do.	15	"	25
Shipping,.....do.	9	"	15
CANDLES, Mould, Tallow,.....do.	10	"	13
Sperm,.....do.	25	"	40
Stearic,.....do.	20	"	25
CHEESE,.....do.	5	"	10
COAL, Anthracite,.....2,000 lbs.	5 00	"	6 00
CORDAGE, American,.....lb.	11	"	13
COTTON,.....do.	8	"	12
COTTON BAGGING, Amer. hemp,.....yard,	15	"	16
FEATHERS,.....lb.	30	"	40
FLAX, American,.....do.	8	"	9
FLOUR, Northern, Southern and West'n bl.	4 25	"	5 33
Fancy,.....do.	5 50	"	6 00
Richmond City Mills,.....do.	6 50	"	6 75
Buckwheat,.....do.	—	"	—
Rye,.....do.	3 00	"	3 06
GRAIN—Wheat, Western,.....bush.	1 05	"	1 30
Red and Mixed,.....do.	85	"	1 15
Rye,.....do.	55	"	60
Corn, Northern,.....do.	62	"	64
Southern,.....do.	60	"	62
Barley,.....do.	60	"	63
Oats,.....do.	34	"	42
GUANO, Peruvian,.....2,000 lbs.	47 00	"	50 00
Patagonian,.....do.	30 00	"	35 00
HAY, in bales,.....do.	45	"	50
HEMP, Russia, clean,.....ton.	195 00	"	200 00
American, water-rotted,.....do.	160 00	"	220 00
American, dew-rotted,.....do.	140 00	"	175 00
HIDES, Dry Southern,.....do.	8	"	9
HOPS,.....lb.	6	"	15
HORNS,.....100.	2 00	"	10 00
LEAD, pig,.....do.	4 50	"	4 55
Pipes for Pumps, &c.....lb.	5	"	3 50
MEAL, Corn,.....bbl.	3 18	"	3 50
Corn,.....hhd.	14 00	"	15 00
MOLASSES, New Orleans,.....gal.	22	"	28
MUSTARD, American,.....lb.	16	"	31
NAVAL STORES—Tar,.....bbl.	1 63	"	1 87
Pitch,.....do.	1 25	"	1 75
Rosin,.....do.	1 65	"	1 15
Turpentine,.....do.	2 50	"	2 75
Spirits Turpentine, Southern,.....gal.	35	"	37
OIL, Linseed, American,.....do.	79	"	80
Castor,.....do.	1 50	"	1 70
Lard,.....do.	60	"	70
OIL CAKE,.....100 lbs.	1 25	"	1 50
PEAS, Field,.....bush.	75	"	1 25
Black-eyed,.....do.	1 50	"	1 75
PLASTER OF PARIS,.....tn.	1 12	"	2 75
Ground, in bbls,.....of 300 lbs.	1 20	"	1 25
PROVISIONS—Beef, Mess,.....bbl.	12 00	"	14 00
Prime,.....lb.	9 50	"	12 00
Smoked,.....do.	6	"	12
Rounds, in pickle,.....do.	4	"	6
Pork, Mess,.....bbl.	10 00	"	13 00
Prime,.....do.	7 00	"	10 50
Lard,.....lb.	63	"	7 1/2
Bacon sides, Smoked,.....do.	3	"	4 1/2
In pickle,.....do.	3	"	4
Hams, Smoked,.....do.	5	"	9
Pickled,.....do.	4	"	7
Shoulders, Smoked,.....do.	4	"	6
Pickled,.....do.	3	"	4
RICE,.....100 lbs.	3 25	"	4 06
SALT,.....sack,	1 17	"	1 30
Common,.....bush.	20	"	35
SEEDS—Clover,.....lb.	5 1/2	"	7
Timothy,.....bush.	2 00	"	3 50
Flax, clean,.....do.	1 30	"	1 40
rough,.....do.	1 20	"	1 30
SODA, Ash, contg 80 per cent. soda,.....lb.	3	"	—
Sulphate Soda, ground,.....do.	1	"	—
SUGAR, New Orleans,.....do.	4	"	6
SUMAC, American,.....ton,	35 00	"	37 00
TALLOW,.....lb.	7	"	8
TOBACCO,.....do.	3	"	9
WHISKEY, American,.....gal.	24	"	25
WOOLS, Saxony,.....lb.	40	"	60
Merino,.....do.	35	"	40
Grade Merino,.....do.	30	"	35
Common,.....do.	20	"	30

NEW-YORK CATTLE MARKET.

At Market.—2,000 Beef Cattle, (1,100 southern, the remainder from this state and east), 65 Cows and Calves, and 5,500 Sheep and Lambs.

Beef Cattle.—The market for Beeves, though active, is rather overstocked, the sales varying from \$5.50 to \$8 per hundred. The number on hand, unsold, is estimated at 200.

Cows and Calves.—These vary from \$18 to \$45. The demand rather dull—15 left over.

Sheep and Lambs.—These are plenty; the Sheep selling from \$1.25 to \$5.25, and the Lambs from \$1 to \$3.25 each. The number left unsold, 300.

REMARKS.—Ashes, Cotton, and Wool have advanced since our last, the latter article from ten to twenty-five per cent., according to quality. This is encouraging to the wool grower. Flour and Grain have slightly receded.

Crops.—All the grain crops have proved a full average, taking the aggregate of the country. Corn never was better, though it is late in ripening. But the fall weather, providentially, has been uncommonly warm and fine for this purpose; had it been the reverse, very little corn would have ripened this season, north of latitude 41 degrees. Cotton has suffered materially, and will undoubtedly be a short crop. The drought has continued up to this date quite severe in parts of the west and north, so much so, as to materially affect the pastures, and greatly reduce the hay crop. In Nova Scotia, and some other parts of the British Provinces, we understand, not over a quarter so much hay will be cut this season as usual, on account of the severe drought.

Money abundant, and business very active.

The Cholera has ceased, and the city now is very healthy.

TO CORRESPONDENTS.—Communications have been received from Z. C. Robbins, Henry A. Field, William H. Sotham, Nathan Chapin, Edmund Troye, David Miller, and Reviewer.

Employment for Immigrants.—D. M. of Brownsville, Pa.—A German farmer, capable of taking charge of a herd of cows, cannot be obtained for less than \$200 a year.

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MANUFACTURE all kinds of Blank Books and Stationery articles—Diamond Point Gold Pens—Letter Copying Presses—Manifold Letter Writers—superior Croton Ink, warranted to retain its jet-black color, which they sell at the very lowest prices.

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Sept. 17.

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THE AMERICAN FARM BOOK, or compend of American Agriculture; being a practical treatise on soils, manures, draining, irrigation, grasses, grain, roots, fruits, cotton, tobacco, sugar cane, rice, and every staple product of the United States, with the best methods of planting, cultivating, and preparation for market. Illustrated by more than 100 engravings. By R. L. Allen, author of Diseases of "Domestic Animals," and editor of the "American Agriculturist;" together with Browne's Memoir on Indian Corn, including Barlow's celebrated Poem. Published and for sale by

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FOR SALE,

A NURSERY, of the very choicest Fruit and Ornamental Trees, situated in the village of Astoria, L. I., a few hundred yards from the steamboat landing. To the Nursery, there are attached five acres of good land, with a house and barn, which will be leased to the purchaser of the trees, for the term of five or ten years. This is a rare chance for a man well acquainted with the business, as the trees will be sold low, the former owner having left for California. For further particulars apply to
R. M. BLACKWELL & CO.,
o 2t.* 144 Front st., N. Y.

PERUVIAN GUANO

FOR Sale, at Bating Hollow, Long Island, by
jy3t AZEL DOWNS

IMPROVED DAIRY STOCK AT AUCTION.

THE subscriber will offer on the 13th day of October next, at 1 o'clock, P. M., at his farm, from 30 to 40 head, being about one half of his present herd.

Their Breed is mainly the best Improved Shorthorn, crossed with the Amsterdam Dutch, selected and bred expressly by the subscriber with reference to milking qualities. They consist of Cows, two-year-old Heifers, one-year-old Heifers, Heifer Calves from one to ten months old, and several Bulls.

Cows and heifers, old enough, are in calf to the proper bulls. A credit of six months will be given on all sums over fifty dollars, with interest, on satisfactory paper. Stock purchased to be sent a distance, will be delivered by the subscriber on shipboard or railcar, in the city of New York, free of risk and expense to the purchaser.

A catalogue and description of each animal, will be given on the day of sale.

The awards of premiums by the American Institute, and Westchester-County Agricultural Society, give evidence of my success as a breeder.

Conveyances will be in waiting at Fordham Depot, Harlem Railroad, to convey persons to the sale.

Should the weather prove stormy on the day of sale, it will be postponed until the next fair day.

L. G. MORRIS.

Mount Fordham, 11 miles from the city of New York, August, 1849.

DR. UNDERHILL'S MINERAL FIRE AND WATER-PROOF PAINT.

THIS substance is found near Hoffman's Ferry, in the county of Schenectady, New York. It has been well tested, and when mixed with linseed oil, and applied the usual way, with a brush, it proves to be a paint of superior quality. When dried, it forms a slaty surface, perfectly adhering to wood, brick, or stone, and is not liable to peel off nor crack from the effects of ordinary heat, wet, and cold. Neither will it dissolve when subjected to nitric, sulphuric, nor muriatic acids.

Roofs painted with this pigment are guarded against moisture, and will not take fire from the burning of adjacent buildings sooner than those covered with slate or tin. From the smooth surface it forms, when rubbed down with sand paper or pumice, it is admirably adapted for the first coating of carriages and all other articles where a fine finish is required. Other paints, of various tints, strongly adhere to it, and receive a high polish. Its natural color, when in powder, is light slate; but it can be changed to brown or drab, by the addition of yellow or red, suitable for painting wood or brick, without materially affecting its durability. Wood covered with it, does not shrink nor swell, as with other paints, while on brick work, from its stone-like surface, it is not injured by the weather.

This paint is not an artificial but a natural article, being reduced to a powder by grinding, and mixed quite thick with raw or boiled linseed oil. One hundred pounds will cover about 1,000 square feet, and generally, two coats will be sufficient, if carefully put on. It requires some time to dry, but generally, the second or third day after it is applied, if exposed to the sun, it becomes quite hard. The longer it is exposed to the weather, however, the more it adheres, and the firmer it grows. For fences, out-buildings, and roofs, it stands unsurpassed.

To satisfy the public that this paint is no hoax, the undersigned pledges himself to refund all monies, if it does not prove to be all that is claimed as above.

This paint is prepared and for sale, at Charlton, Saratoga county, New York, by the subscriber, from whom all orders will receive prompt attention. It may also be had at the Agricultural Warehouse and Seed Store of A. B. Allen & Co., 189 and 191 Water street, in the city of New York.

ABEL UNDERHILL.

SELLING OFF—LINNÆAN BOTANIC GARDEN AND NURSERY.

LATE OF WILLIAM PRINCE, DECEASED,
Flushing, Long Island, near New York.

WINTER & CO., PROPRIETORS.

IN consequence of the decease of the junior, and of the advanced age of the surviving partner, who, therefore intends to relinquish the business, the entire stock of this establishment, comprising every description, including the newest and choicest varieties, of FRUIT AND ORNAMENTAL TREES, SHRUBS, VINES, AND PLANTS, ROSES, GREENHOUSE PLANTS, BOX EDGING, &c., will be disposed of in lots to suit purchasers, at very reduced prices, in order to close the business as speedily as possible.

Orders accompanied with the cash to the amount of ten dollars or upwards, will be supplied at a reduction of twenty-five per cent. from the usual prices.

Nurserymen, vendors, and others wishing to purchase, by wholesale, will be supplied at such reduced prices, according to quality and quantity, as will probably prove satisfactory to them.

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THE QUEEN'S DICTIONARY.

THE Messrs. Merriam, some time since, transmitted to Queen Victoria, through the hands of George Bancroft, the American Minister, a magnificently-bound copy of their unabridged edition of Webster's Dictionary. It was given to the Queen through her husband, Prince Albert, and its receipt has been acknowledged by the Secretary of His Royal Highness. The acknowledgment is of course directed to His Excellency, the American Minister, and we have the pleasure of presenting it to our readers.—*Springfield Republican.*

SIR.—I have the honor to inform your Excellency, that Her Majesty, the Queen, has accepted, with great pleasure, the copy of the last edition of Webster's English Dictionary, which, according to the directions you gave me, was laid by me before His Royal Highness Prince Albert, and was presented afterwards by the Prince to Her Majesty, on the part of the publishers, Messrs. Merriam; and I have been commanded to express to your Excellency, and to beg of you to transmit to Messrs. Merriam, Her Majesty's gracious thanks for this beautiful present, which, Her Majesty highly values, not only on account of the great merits of the work itself; but still more so, as a sign of those feelings towards Her Royal Person on the part of a large portion of the Anglo-American nation, which your Excellency informed me it was intended to represent, and which, after the political disunion which has taken place between the United Kingdom, and the United States, could not indeed have found a more appropriate way of expressing themselves than the presentation to Her Majesty of a work on the English language which directly refers to that powerful and indissoluble bond by which the two cognate Nations on the Eastern and Western side of the Atlantic will forever remain united. Your Excellency, as well as Messrs. Merriam, will no doubt feel great pleasure in learning that Her Majesty has placed the work presented through your Excellency, amongst the few selected volumes which compose Her own private Library.

I have the honor to be, Sir, your Excellency's faithful servant.

C. MEYER, Sec'y to H. R. H. Prince Albert.

Buckingham Palace, June 20th, 1849.

His Excellency, the American Minister.

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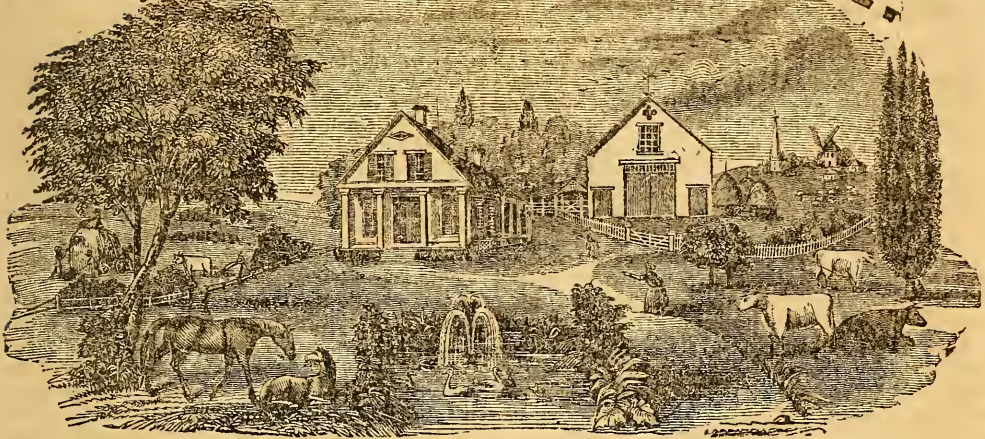
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AMERICAN AGRICULTURIST.



Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

VOL. VIII.

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NO. XI.

MESSRS. ALLEN, EDITORS.

C. M. SAXTON, Publisher, 121 Fulton Street.

WORK FOR NOVEMBER, NORTH AND WEST.

ONE of the first and most important pieces of work to be attended to this month, is to repair your dwelling and make all snug for the cold winter that will surely come upon all who dwell north of latitude forty degrees. Hundreds, aye thousands, of families are now living in new log cabins, many of which have not been "daubed," that is, the cracks plastered with mud or mortar. Do not wait another day. Make your houses warm, comfortable, healthy, and your wife and children happy. Do not neglect to provide them with winter clothes and shoes, before the ground freezes. It is cruel and wicked to neglect this.

Now Secure Potatoes and Turnips.—This can always be done in heaps, if carefully covered. Smooth off a spot of ground from which the water will drain and make a round pile of thirty bushels. The best covering in the world is clean, bright, sound, rye straw. Commence at the bottom and put it up and down straight and six or eight inches thick. Now earth up two thirds of the length and put on another layer, the butts resting on the dirt. Cover well; and your roots will surely keep.

Provide Winter Quarters for Stock.—Do not neglect this. Upon the point of humanity and economy, domestic animals should be sheltered. At least, give them sheds, or some place where they can break off the sweeping blasts from the north.

Put up Hogs to Fatten.—This should have been done last month, or, in fact, in September, just as soon as the corn was hard enough to pick for them. In truth, it is poor economy to let hogs run out at all. Do not put them in the mud two feet deep.

Set out Fruit Trees.—As you value health, long life, and smiling friends, do not let the winter set in till this is done. If you cannot set them out, get

them home from the nursery and bury the roots in garden mould and keep them till spring. Do not say you "don't know where to get them." Send your orders to us, if you cannot do better, and we will see that you are supplied by an honest nurseryman.

Guard against Fires.—This advice is for the western prairies, where, at this season, much fencing, hay, and grain is consumed by the sweeping fires, every year.

Fall Plowing.—If you have leisure, before the ground freezes, do not forget that one day of plowing now is worth two next spring—breaking prairie land always excepted.

Get Your Sleds Ready.—Never put this off till snow comes. There will be some rainy days in November, and some long evenings that might be profitably devoted to preparing to take advantage of the first hour of sledding that comes.

Get up Wood.—Do not let the first snow storm find you without a stick at the wood pile, or rather where it ought to be.

Go to Mill, while you can, and not put it off till the ground is about half frozen. Above all, do not borrow.

Look out for a Winter School, and be sure that you have a good one. To do this, you must have a good school house. You can seldom get a good teacher to go into a miserable, old, rickety school house, nor a cold log cabin; and if he does, he cannot teach your children to any advantage. There is such an idea of discomfort associated with the place that they cannot learn. And, finally, do not forget this month to organize a club, to visit round among all the farm houses during the winter, and talk over matters concerning your immediate interests; and if any one has dis-

covered anything that he thinks will benefit his neighbor, make it known.

Recollect it is almost time to renew your subscription to the *Agriculturist* and that next year we are going to make it better and better.

WORK FOR NOVEMBER, SOUTH.

This is a busy month in all the cotton and sugar states. As the laborers are proverbially careless, we bespeak most earnestly the attention of masters and managers to keep a sharp look out for fire. In no other way can you be assured against the entire destruction of a whole crop. Use no other light about the gin house, than a wire-gauze lamp. Have your gins provided with "water boxes" that prevent all danger from friction. In a few years, you will be able to buy gins that are superior to the Whitney gin, and entirely free from danger of taking fire. They are already invented.

Cotton Presses.—Have you ever thought that the presses now in general use are not what they should be? There are better ones. Look to it. We can cite you to one planter, (Col. Hampton, of S. C.,) whose bales never need re-pressing. It would cost you no more to do them right, in the first place, than it does to make the miserable packages you now do. Then how much you would save!

Cotton Baskets.—What are you going to do when all your basket timber is exhausted, as it soon will be? in fact is, in some places? Will you send north for them? Well, we can supply you; but you had better plant and grow timber—the osier willow, for instance. Look to it this month.

Cotton Seed.—Do not neglect this all-important matter. Look what the "Prouty or Hogan seed" has come to from careful selection. There is no need for you to pay "a dime a seed," to get a good article, if you will only select it yourself, a few years.

Feeding Stock on Pea Fields.—This is the month more than all others that cattle and hogs die from eating peas. Be careful and feed your hogs well with corn or salt slops, before turning them in. Salt and feed your cattle well. Do not turn hungry cattle upon fresh pea vines. If you have not hogs enough this year to make your meat, look out now for a supply, before they are put up to fatten. You can raise pork better than you can buy it with cotton.

Fruit Trees.—Do not forget that this is the best month in the year to order fruit trees from the north. Don't try for a great assortment, but just a few of the choicest kinds. Col. Carter and Dr. Cloud, of Macon county, Alabama, have growing upon their farms, a native winter apple, that is perhaps superior to any other. It is worthy of notice at the south. It is probable that Dr. Phillips, of Hinds county, Mississippi, also has it; at any rate, he has got the best assortment of fruit trees in the south that we know anything about.

Provide for Winter.—Although you live in the "sunny south," we have seen some very chilly blasts among your cotton bales and sugar hog-heads. Therefore, provide for winter. Some of you live in houses no better than they should be, and some of your people would live entirely out doors if their masters did not make them build

themselves houses. So, as you have done picking cotton, or ought to be this month, in all the northern parts of cottondom, go to work and fix up for winter. Make Old Jo daub up the cracks in his house, and he won't complain so much of rheumatism next winter. Send Long Jim to top out Old Aunt Katy's chimney, and you won't hear the children in the nursery squall so much. The plantation hands are proverbially careless. You know they won't fix up themselves, so you must make them, and we must make you. Go and see Col. Hampton, and some others we could name, and get a pattern for negro houses. This is the month north and south, to provide for winter.

FAIR AT BRIDGEPORT, CONNECTICUT.

This was one of the most extraordinary agricultural shows of the present year. Fairfield county has long been noted for containing a population of old-fashioned farmers, who have continued to improve their farms just as their fathers did before them, and whom, it was thought, nothing could arouse to take an active part in any of the efforts that a few have made to sustain an agricultural society. The effort had nearly died out, until, by some lucky chance, P. T. Barnum, Esq., became enlisted in the good cause, and at once determined that Fairfield county should have a *Fair* that would awaken her from her lethargy. And as it is well known that whatever he undertakes will be done, you may be assured that this county never saw such a turn out upon any similar occasion. The moral effect upon the farmers, and all their household, I need not discuss now, as it is a self-evident fact to all observers.

The efforts made by Mr. Barnum to awaken public attention to the importance of this fair, and to get up such a show as would make it interesting, as well as useful, are well worthy the example of those who are solely engaged in agricultural pursuits. Judging from the great crowd in attendance, there is no doubt but such an interest is awakened as will never sleep. For two days and the intervening evening, the two large halls of exhibition were crowded to excess; but whether the greatest curiosity was to see the "smallest production of Fairfield county," or not, is uncertain, as among the rest of the productions upon exhibition, was that most wonderful and celebrated human being in the world, known as "General Tom Thumb!"

The quantity of agricultural products exhibited, was altogether too small for such a county as this; and such as were there, were shown to great disadvantage; because they were brought in at so late an hour that it was impossible to have them arranged in order. This is greatly owing to a want of interest upon the part of farmers. They do not come as honorable competitors for premiums, nor even with a strong desire to do all in their power to make up a show of the products of their farms, that shall do honor to the county, but merely to gratify curiosity and see what somebody else has to show.

One of the most interesting exhibitions in the hall was the great display of implements from the New-York Agricultural Warehouse of A. B. Allen & Co., which were all brought in and properly

arranged the day before, as everything should be, and consequently excited and gratified a very extensive curiosity. Among the rest, the "folding ladder," (see cut, p. 318 of the current volume,) seemed to attract general interest. The sausage cutters and stuffers, and thermometer churns, also, drew much attention. The eagle plows were much admired, and took the first premium at the plowing match. I understand that the society have awarded to A. B. Allen & Co. a twenty-five dollar premium, and a diploma, which is certainly a very high compliment, as it was larger than any other given.

Munson & Co., of New Haven, also exhibited agricultural implements. Some fifty of the minor premiums were given in agricultural books, instead of money, as always should be the case.

The show of stock was rather too small, and some of the best of that, from New-Haven county, among which Mr. Bishop had some very good animals.

The address of Mr. Barnum, President of the society, and who is much better known as the proprietor of the American Museum, at New York, than as an agriculturist, was one of the very best of the season; for it was plain talk, and just such talk as farmers ought to hear and appreciate. The speaker did not hesitate to tell a good joke upon himself about his own farming, which he thought might benefit his hearers.

In point of cash receipts, I presume that no agricultural fair in the state of Connecticut ever equalled this. It will not fall much short of \$700; and if continued in the same spirit that actuated those engaged in this, when the whole of those deeply interested shall lend their assistance, it will become the "Great Connecticut Fair," instead of a county *af-fair*. I shall expect rivalry, next year, between our Bridgeport and New-Haven friends, both of whom I hope to be able to visit during their great anniversary exhibition of the fruits of a well-tilled soil.

During the plowing match, notwithstanding the inclemency of the weather, a crowd listened to an excellent address by Judge Pond. Afterwards, Solon Robinson, the travelling agent of Messrs. A. B. Allen & Co., was called for, and amused the audience for half an hour, if he did not instruct them.

It was extremely gratifying to the writer to find so large a number of ladies in attendance, and many of them taking a deep interest in the exhibition. I perceived that the committees distributed premiums among them, with a liberal hand.

In conclusion, I would suggest that officers of societies correspond with each another, and fix the times in different counties, so as not to conflict. This will give an opportunity for a general system of visiting. Let every farmer and mechanic annually bring to the meetings of the society, the result of their experience, the past year, and compare notes with others, and all will gain knowledge—always advancing toward human perfection. In this all are interested.

I cannot close without a hint to the railroad companies that they should adopt the same policy of the New-York railroads, and carry all stock and implements to these fairs free, and the visitors at half price; for, whatever tends to promote and

increase the produce of the country, promotes their interest. I think merchants and hotel keepers should make liberal subscriptions in aid of these fairs, as they certainly add greatly to their wealth.

OBSERVER.

TWENTY-SECOND ANNUAL SHOW AND FAIR OF THE AMERICAN INSTITUTE.

This was held, agreeably to announcement, at the spacious rooms, and adjoining premises, of Castle Garden. The general display of fabrics, manufacturing implements, fruits, field and garden products, &c., nearly equalled preceding exhibitions, and, in some respects, much exceeded them. In some of the departments of woolen and cotton goods, there were fewer specimens than have often been shown, but such as we saw were of superior quality.

There was a very handsome display of cocoons, reeled silks, and various manufactured articles, including several specimens of handkerchiefs, vestings, satins, &c. The India-rubber goods were particularly abundant and varied, among which, we noticed boots, buoys, boats, buckets, jugs, and wash bowls. There were some beautiful samples of glass ware from several establishments in this vicinity, and so tasteful and elegant were most of the articles, that we think the most refined or critical taste need not look beyond the Atlantic for articles, either of ornament or utility, for their tables or sideboards. There were many splendid specimens of American cutlery, equal in construction and finish to the best imported. And, indeed, in some departments of this branch, especially in tailor's shears, we have for many years supplied the choicest article used in England and some other parts of Europe.

We were particularly gratified with beautiful specimens of American cast steel from the Adirondack Iron Works. There was wire from the same establishment of great toughness and flexibility, and some of extreme fineness, wrought by a new process. The ore and anthracite coal are thrown together in a puddling furnace, from which it is delivered in the bloom, ready for rolling or hammering into bars or bolts, of any size or form, whether of the most massive shafts or anchors, railroad bars, or the finest wire. Other wires of similar appearance and quality were shown by J. B. Gascoigne, of this city.

Several steam engines were in operation on the premises, some of them of beautiful finish; and among them, two small rotary machines. But we did not observe any compactly arranged for farming purposes. This is a *farm implement*, long since adopted in England, where it is made to contribute largely to the operations of the farm. It is a desideratum in American implements which we hope soon to see adopted. The engine can be purchased for half the sum its equivalent in horses will cost; its fuel need not be one fourth the expense of their feed, and the cost of engineer and repairs will bear even a less ratio to the groom's and farrier's bills. These estimates are based upon a small, properly-arranged engine, rated at three or four-horse power, but which really has a capacity of double that number of animals. They require but a bushel or two of coal per day, which is supplied twice only, and the simplicity of the ma-

chine renders attention to it scarcely necessary beyond making the fire and oiling the machinery.

The display of farming implements, plows, &c., generally, was good; but we saw little that was new or improved. A tilting wagon, with a sliding body placed on four wheels, which is easily run back by a small lever, for the purpose of dumping a load, is an old invention, which may be advantageously used in many cases. Presses for hay, cotton, oil, and cider, were also shown, and each, both of Bullock's and Dick's patent, well adapted to the object. Excellent forcing and lifting steam pumps were exhibited, suited for irrigating rice or other lands, supplying manufactories or villages with water, or draining mines.

The vegetable products, and fruits, were excellent of their kind; and several lots of seed corn, wheat, roots, squashes, &c., were shown, possessing rare merits. The grapes were by far the most imposing of the fruits. The choicest of the foreign kinds are now extensively grown among us, by adopting the conservatory or green house, where the vines are simply placed under glass, without the addition of heat. By this arrangement, the sun is admitted, while frosts and the cold air are excluded. This gives an additional six or eight weeks of the growing season to the grape, both in spring and autumn, and is fully equivalent to a prolonged season and a higher temperature. We have only to adopt this comparatively economical system of graperies to multiply this delicious fruit to an indefinite extent.

Cattle Show.—This took place on the 10th and 11th of October, at Madison Cottage, 25th street. The weather, unfortunately, was stormy, and, in consequence of this, many animals did not make their appearance, which were expected. The show of horses was quite indifferent; that of cattle better than last year, embracing the usual variety of Durham, Devon, Ayrshire, Alderney, and their various crosses. The sheep, though few, were uncommonly good. We would mention particularly the large French Merinos of Mr. Collins, and the superb Cotswolds of Mr. Hallock. Mr. Stickney, and some others, made a fine display of the beautiful Suffolk pigs. A cross of these on the large, white hog of the Hudson River, are just the thing for the farmer. Mr. Love exhibited a few good Berkshires, which, in their dark, glossy coats, were quite attractive. The poultry was not numerous. Dr. Field had some very choice Dorkings.

We wish the institute could afford to give larger and more numerous premiums at their annual cattle shows, as this would greatly increase the number and quality of the animals exhibited. There is material enough in the country bordering the city, to make a good display, if breeders were only better encouraged to come out with their stock; and we think this would be the best system to pursue to promote sales, as the assortment now is so small, that few from abroad are tempted to make their appearance as purchasers.

During the weeks the fair was kept open, there was a continuous throng of delighted visitors, and we are glad to learn the receipts have been proportionate to the zeal and intelligence that has controlled the institute, through its present able board of officers and managers.

FARRIERY.

Case 1.—Last spring, I had a fine new-milch cow which was regularly stabled. I had had her stall, with others, filled with muck, in which was much frost, and then covered with litter. I presume the cold, wet muck caused her to have an inflammation of the udder. The first intimation I had of it was just before bed time and therefore, I could not send for a cattle doctor nor for medicine, without much inconvenience. I therefore proceeded to my library to consult several works I had on farriery, but was disappointed in finding that there was not a single course pointed out that I could follow; for all the remedies used were such as no person could easily get in an emergency. I was, therefore, obliged to follow my own feeble judgment in such matters.

I had the cow held firmly by the horns and nostrils, which was necessary; for her bag was very much swollen, hot, and tender. A person stood behind her, and bathed her bag with warm water, and then lubricated the parts with warm hog's lard; then she was partially milked and her bag again bathed, and so continued bathing and milking until she was milked clean, and her bag was soft and pliable. The milk, at first, was curdy, and much blood was mixed with it. I directed she should be well bedded, and have hay and water only, and that in small quantities. The next morning, she was milked without much difficulty, and afterwards regularly, and has not since suffered the least from the above cause.

Case 2.—A sow had five pigs, at her first litter. I found, that, after pigging, there was a large protrusion which proved to be a part of the vagina, and the bladder inverted. I replaced them, and took several stitches in the external parts, but the after pains were so great that the tumor was forced through the smallest opening. I, therefore, concluded to let her alone; but she seemed to suffer so much, and was failing so rapidly, having frequent rigors, and had such a pale, miserable, appearance, besides, maggots were revelling in the parts, that I concluded to make short work of it. I enclosed the whole mass in a ligature, and then cut it off. I found I had the bladder, ureters, &c., and of course, expected my patient must die; but she improved, became able to go around, eat well, and the color of her snout and ears were as natural as ever. She was able, too, to nurse her pigs, but I was very sorry to find, one day, that she had died during my absence from home. I was told that she was injured by a cow, which caused her death, which, for my reputation's sake, as a pig doctor, I hope was the case. F.

Poughkeepsie, September, 1849.

A PROFITABLE PEACH ORCHARD.—In 1845, Henry Cornell, three miles southwest of Newburgh, set out 475 peach trees upon four acres of land, having a gentle slope to the southeast. The soil is somewhat clayey, well mixed with broken stone. The cost of the trees when set out was \$46. In 1847, he sold 100 baskets of peaches, holding a trifle over three pecks each, for \$100. In 1848, he sold 200 baskets for \$100. In 1849, he sold 599 baskets, which, including the plums from a row of trees along two sides of the orchard, brought \$650, netting \$575 for the crop this year!

MR. MORRIS' SALE OF STOCK.

THIS sale came off, as advertised, at Mount Fordham, on the 13th of October. We got there at one o'clock, P. M., and found the animals tied up at convenient distances for inspection, in rows, along the north and west sides of the lawn, in front of the house. They were in fine condition, and presented a highly gratifying sight to the lovers of improved stock. Upwards of one hundred and fifty gentlemen had already assembled, and were examining the stock with marked attention. Sufficient time for this being given, Mr. Morris invited the company into his elegant mansion, to a lunch. This was set out in the large dining room, and being choice and abundant, the company partook of it with no little gusto. When finished, all adjourned again to the lawn, and the sale commenced. The bidding was spirited, and nearly forty head were disposed of in about an hour and a half. The highest price obtained for cows was \$92.50; for heifers, \$80. The average price per head was nearly \$60. When we consider that most of the animals put up were a cross of the shorthorn on the Dutch, and that this was the first attempt of Mr. Morris at a public sale, we think the bids tolerably fair; though we doubt whether any one in this vicinity, could afford to breed such stock at these prices. But we must hope for an improvement hereafter; for we are confident, as the stock becomes known, it cannot but be appreciated by the farmer, and be sought for with avidity.

The sale was well got up, and the whole thing, so far as we have heard, proved highly satisfactory to the gentlemen present. The animals were put up at a price named in the catalogue, and if this was bid, or anything over, it was knocked down to a real purchaser. No bidding-in was allowed. This is the true method to pursue, and we are satisfied that such sales have only to be conducted in a strictly honorable way, to ensure their being well attended hereafter, and that they will result to the mutual satisfaction of both buyer and seller.

VALUE OF BERKSHIRE SWINE.

A CORRESPONDENT from New Jersey thus writes us: "Some years since, I had a very fine stock of Berkshire hogs, but from neglect and other causes, they have entirely disappeared, since which, I have not enjoyed the luxury of a good ham on my own table; I am fully satisfied they have been more sinned against than sinning, and am desirous of procuring a few for breeders, but know not where to apply for information except to yourselves."

The above is just what we told the public over and over again, several years ago, would soon be the complaint, when the demand for this breed of swine began to subside, and they were rejected for some new-fangled notion. Taking everything into consideration, we think the Berkshire the best farmer's hog ever raised in this country. A large western pork packer, just returned from a six months' tour, in Great Britain and Ireland, informs us that he has now got to commence growing a herd of Berkshire swine before he can have a proper mixture of lean and fat in his pork to suit the English market. He also wants lean hams, which he can find nowhere so perfect as in Berkshire pigs

SOUTHERN TOUR OF SOLON ROBINSON.

Mr. R. left New York, the last of October, on another tour for the south. He will be in Delaware and Maryland till the 15th of November, and in the mean while, can be written to at Baltimore. From the 15th of November till the 1st of December, he will be in Virginia, and during this time all letters should be directed to him at Richmond. From the 1st to the 15th of December, he will be in North Carolina; while there, please to address him at Raleigh. From the 15th of December to the 1st of January, he will be in South Carolina; and, while in that state, he can be addressed at Charleston. Thence he will probably make a rapid tour via Savannah, Augusta, and Columbus, in Georgia, to Tallahassee, Florida, at which place he will probably arrive about the 15th of January. It is his intention to spend one month in Florida, and while there will receive letters at Tallahassee. From thence, about the 15th of February, he will set out on his return north. The line of his route home will be given our readers in due time hereafter.

Mr. Robinson's object in travelling is, to procure and disseminate agricultural information. For this purpose, he will visit the most highly cultivated, and improved farms and plantations on his route, and give the details of his observations in our columns.

We are much obliged to our numerous warm-hearted southern friends, for the kind and hospitable reception they gave Mr. Robinson last winter, and for their generous appreciation of the objects of his visit. We trust that this second tour will be no less agreeable to him than was the first, and that all who feel interested in his travels, will again tender him such assistance as may be required to successfully carry out the objects of his visit.

Mr. Robinson will continue to act as agent for the Agriculturist, and will have a supply of a few choice agricultural books for sale; he is also empowered to take orders for the Agricultural Warehouse and Seed Store of A. B. Allen & Co., and we will be responsible for any money paid over to him for account thereof, the same as if paid to ourselves.

Early next spring, Mr. Robinson will commence a northern tour, and the remainder of the year 1850 will be principally passed in Pennsylvania, New Jersey, New York, and Connecticut. The particulars of this route we will endeavor to give as early as the March or April number.

COST OF THE ENGLISH HERD BOOK.—In answer to several inquiries relative to the cost of the English Herd Book, we would state that the 1st, 2d, and 3d volumes are now reprinted. These form two volumes, and cost

		£2	12s.	6d.
Vol. 4, costs	.	.	.	1 1 0
" 5, "	.	.	.	1 11 6
" 6, "	.	.	.	1 1 0
" 7, "	.	.	.	1 1 0
" 8, "	.	.	.	1 1 0
<hr/>				
		£8	8	0

At the present rate of exchange, the work, complete, would come at \$42. The duties are 10 per cent. *ad valorem*, and the booksellers' charges about 10 per cent. more, making the whole cost, delivered in New York, about \$50.

AVERAGE PRICES OF AGRICULTURAL PRODUCTS OF OHIO.

The recent Report of the Ohio State Board of Agriculture, enables us to ascertain very nearly the average prices of staple products of that state. The following are those of corn, wheat, oats, and hay, in ten of the southern counties:—

Indian corn,	\$0.24 per bushel.
Wheat,	0.70½ do.
Oats,	0.22 do.
Hay,	5.50 per ton.

Taking the average product of good land, this gives the value of an acre of corn at \$14.40; of an acre of wheat at \$12; an acre of oats, \$9; and an acre of hay, \$11, in Southern Ohio.

The following are the prices in ten of the central counties:—

Indian corn,	\$0.26 per bushel
Wheat,	0.79 do.
Oats,	0.19 do.
Hay,	4.50 per ton.

This table shows that, in these counties, the price of corn is 2 cents, and of wheat 9 cents more than in the ten counties above; while that of oats is 3 cents per bushel, and hay \$1 per ton less than in said counties. This is caused by the relative proximity of the northern and southern markets.

Let us now take ten counties in the north of Ohio to compare by—

Indian corn,	\$0.33 per bushel.
Wheat,	0.94 do.
Oats,	0.22 do.
Hay,	4.62 per ton.

A comparison of the three sections of the state, as above, gives the following general result:—

Articles,	South.	Middle.	North.
Indian corn,	\$0.24	\$0.26	\$0.33
Wheat,	0.70	0.79	0.94
Oats,	0.22	0.19	0.22
Hay,	5.50	4.50	4.62

"Comparing these results with the natural adaptation of the soils," says the Cincinnati Price Current, "we arrive at the commercial reason why the different parts of the state are remarkable for the different staples."

DUTCHESS-COUNTY FAIR.

THIS was held at Poughkeepsie on the third and fourth of October. The show of stock, though not so great as in some former years, was highly respectable. Many were undoubtedly deterred from bringing forward their cattle, owing to their low condition, occasioned by the great drouth the past summer. This is all wrong, though not to be wondered at, since it is a well-known fact that premiums have been awarded altogether too much to undeserving animals, because they were sleek and fat, when they should only have been in good working order.

Several beautiful cattle from the herd of Mr. Sheafe, were shown, just in the condition that workers and milkers should always be exhibited. It was easy to see that they had first-rate points. Mr. Robinson, of Fishkill, had a yearling bull on the ground, that bids fair to grow to as large a size as any elephant breeder could desire. He also had a very handsome fat ox. There were also on the ground, a pair of fat oxen which were highly credit-

able, and some working cattle that were as beautiful as Devon blood and red color could give to high breeding. Many others, worthy of notice, must be omitted.

Of sheep, there were some forty pens, representing Southdown, Merino, Saxon, long-wooled, and crosses, that were extremely good, and worthy of a more extended notice, if space in our columns would permit. The show of horses was small, and so was that of swine and poultry.

In agricultural implements, the specimens were decidedly discreditable to that manufacturing town, as well as others in the country. Where were the plow makers, wagon makers, and other manufacturers, of farming tools in Dutchess county? Do they hold themselves aloof from these farmers' festivals?

The exhibition at the hall, of fruit, flowers, vegetables, seeds, household manufactures, &c., was creditable to all the contributors. It is a pity that we cannot say the same of those that might have contributed to make up the show, but did not. Why do so many hold back and refuse their aid in such a good cause as these annual fairs? Certainly, for an agricultural community it is wrong. Every one, from town and country, should send in every appropriate article to help fill up and make a real museum of agricultural, horticultural, household, and other manufactures. We hope, another year, to see many following the example of such men as our friend Mr. Wheeler, of Hyde Parke, who took the premium for his gardener for the greatest assortment of vegetables, fruits, and flowers.

This society is entitled to commendation for their endeavors to promote the circulation of agricultural papers and books, by offering them as premiums, &c. This policy should be pursued by all agricultural societies, as by that means, information is often spread among those who would never obtain it in any other way. C. M. Saxton, 121 Fulton street, will furnish societies with a general assortment of agricultural books, and also with the American Agriculturist, at reduced rates, when wanted for premiums.

We think that every society should make arrangements to dine together during the holding of a fair, and thus draw out a general interchange of ideas upon the subjects of its immediate interest.

CAPONS.—What will our readers think of one New-Jersey farmer raising fifteen hundred pounds of capons in one season? This, we are assured, has been done by a gentleman by the name of Chambers, near Mount Holly, a few years ago. He sold them at fifteen cents a pound in this city, all very neatly dressed, and of course fat. We say to others, "go and do likewise." A gentleman by the name of Lippencott, in the same neighborhood, we are told, has raised capons weighing ten to twelve pounds a piece. A man by the name of Read, who does a good deal of caponising, says that he does not fear a loss of one in a hundred, if of a suitable age.

POLAR PLANT.—The "rosin weed," (*Sulphium laciniatum*;) of the western prairies, has the extraordinary property of pointing north and south. The cause of its polarity is yet to be discovered.

HINTS ON THE MANAGEMENT OF HORSES.—
No. 7.

Standing of the Horse after Mounting.—If your horse has been used to stand still when he is mounted, there will be no occasion for a groom to hold him; but if he does, suffer him not to touch the reins, but that part of the bridle which comes down the cheek. He cannot then interfere with the management of the reins, which belongs to the rider only; and holding a horse by the curb, (which is ever painful to him,) is evidently improper when he is to stand still.

Posture, or Mode of Sitting, when Riding.—Another thing to be remembered is, not ride with your arms and elbows as high as your shoulders; nor let them shake up and down with the motion of the horse. The posture is unbecoming, and the weight of the arms, (and of the body, too, if the rider does not sit still,) acts in continual jerks on the jaw of the horse, which must give him pain, and make him unquiet, if he has any spirit or a tender mouth.

Bad riders wonder why horses are gentle as soon as they are mounted by skilful ones, though their skill seems unemployed; the reason is, the horse goes at his ease, yet finds all his motions watched; which he has sagacity enough to discover. Such a rider hides his whip, if he finds his horse is afraid of it; and keeps his legs from his sides, if he finds he dreads the spur.

Avoid the ungraceful custom of letting your legs shake against the sides of the horse; and as you are not to keep your arms and elbows high and in motion, you are not to rivet them to your sides, but let them fall easy. One may, at a distance, distinguish a genteel horseman from an awkward one; the first sits still, and appears of a part with his horse; the latter seems flying off at all points.

It is often said with emphasis, that such a one has no "seat" on horseback; and it means, not only that he does not ride well, but that he does not sit on the right part of the horse. To have a "good seat," is to sit on that part of the horse, which, as he springs, is the centre of motion; and from which, of course, any weight would be with most difficulty shaken. As in the rising and falling of a board, placed in *equilibrium*, the centre will be always most at rest, the true seat will be found in that part of your saddle into which your body would naturally slide, if you rode without stirrups; and is only to be preserved by a proper poise of the body, though the generality of riders imagine it to be done by the grasp of the thighs and knees. The rider should consider himself as united to his horse in this point; and when shaken from it, endeavor to restore the balance.

Perhaps the mention of the two extremes of a bad seat, may help to describe the true one. The one is, when the rider sits very far back on the saddle, so that his weight presses the loins of the horse; the other when his body hangs forward over the pommel of the saddle. The first is practised by grooms, when they ride with their stirrups affectedly short; the latter, by fearful horsemen on the least flutter of the horse. Indeed, there is no difference between the seat of either, only, as in the first, they ride with shorter stirrups, their body will be consequently more behind their knees.

To have a good seat, your saddle must sit well. To fix a precise rule might be difficult; it may be a "direction," to have your saddle press as nearly as possible on that part which we have described as the point of union between the man and horse; not so as to obstruct the motion of the horse's shoulders, however. Place yourself in the middle or lowest part of it; sit erect, but with as little constraint, as in your ordinary sitting. The ease of action marks the gentleman; you may repose yourself, but not lounge. The set and studied erectness acquired in the riding house, by those whose deportment is not easy, appears ungenteel and unnatural.

If your horse stops short, or endeavors by rising and kicking to unseat you, bend not your body forward, as many do in these circumstances; that motion throws the breech backward, and you off your fork or twist, and out of your seat; whereas, the advancing of the lower part of your body, and bending back the upper part and shoulders, is the method both to keep your seat, and to recover it when lost. The bending your body back, and that in a great degree, is the greatest security in flying leaps; it is a security, too, when your horse leaps standing. The horse's rising does not try the rider's seat; the lash of his hind legs is what ought chiefly to be guarded against, and best done by the body's being greatly inclined back. Stiffen not your legs nor thighs; and let your body be pliable in the loins, like the coachman's on his box. This loose manner of sitting will elude every rough motion of the horse; whereas the fixture of the knees, so commonly laid a stress on, will in great shocks conduce to the violence of the fall. The skilful horseman will recover his poise by giving some way to the motion; and the ignorant horseman will be flung out of his seat by endeavoring to be fixed.

Stretch not out your legs before you; this will push you against the back of the saddle; neither gather up your knees like a man riding on a pack; this throws your thighs upwards; each practice unseats you. Keep your legs straight down; and sit not on the most fleshy part of the thighs, but turn them inwards, so as to bring in your knees and toes; and it is more safe to ride with the ball of the foot pressing on the stirrup, than with the stirrup as far back on the heel; for the pressure of the heel being in that case behind the stirrup, keeps the thighs down.

When you find your thighs thrown upwards, widen your knees to get them and the upper part of your fork lower down on the horse. Grasp the saddle with the hollow or inner part of your thighs, but not more than just to assist the balance of your body; this will also enable you to keep your spurs from the horse's sides, and to bring your toes in. Sink your heels straight down; for, while your heels and thighs keep down, you cannot fall; this, (aided with the bend of the back,) gives the security of a seat to those who bear themselves up in their stirrups in a swift gallop, or in the alternate rising and falling in a full trot.

Length of Stirrups.—Let your seat determine the length of your stirrups, rather than the stirrups your seat. If more precision is requisite, let your stirrups be of such a length, as that, when you

stand in them, there may be the breadth of four fingers between your seat and the saddle.

It would greatly assist the learner, if he would practise riding in a large circle without stirrups; keeping his face looking on the outer part of the circle, so as not to have a full view of the horse's head, but just of that ear which is on the outward part of the circle; and his shoulder, which is towards the centre of the circle, very forward. By this means, you learn to balance your body, and keep a true seat, independent of your stirrups; you may probably likewise escape a fall, should you at any time lose them by being accidentally shaken from your seat.

Of the Saddle.—As the seat in some measure depends on the saddle, it may not be amiss to observe, that because a saddle with a high pommel is thought dangerous, the other extreme prevails, and the pommel is scarce allowed to be higher than the middle. The saddle should lie as near the backbone as can be, without hurting the horse; for the nearer you sit to his back, the better seat you have. If it does so, it is plain the pommel must rise enough to secure the withers from pressure. Therefore, a horse, whose withers are higher than common, requires a higher pommel. If, to avoid this, you make the saddle of a more straight line, the inconvenience spoken of follows; you sit too much above the horse's back, nor can the saddle form a proper seat. There should be no ridge from the button at the side of the pommel, to the back part of the saddle. That line should also be a little concave, for your thighs to lie at ease. In short, a saddle ought to be, as nearly as possible, as if cut out of the horse.

SUGAR MAKING.

We are quite assured that there is destined to be a radical change in the manufacture of sugar from the sugar cane, in this country. As at present arranged, every planter has to combine the operation of raising the cane and manufacturing his crop. This is too complicated for most of those engaged in the business, besides involving a large amount of capital. The machinery for grinding the cane and making the best qualities of sugar, including the steam engines, boilers, &c., complete, cost from \$15,000 to as high, in some instances, as \$50,000, besides requiring the employment of the most experienced managers and engineers, at high wages. This combination of widely-different operations, implies an amount of information, and demands a supervision, on extensive plantations, which few of the owners possess, and which can be secured but imperfectly by employees, at prices which they are hardly justified in paying.

The remedy for this seemingly irremediable difficulty, we would now suggest, premising, however, that as the subject has not hitherto elicited much attention, within our own knowledge, that something much more practical may possibly be hit upon by the planters themselves.

The plantations, as they now exist, in the United States, are almost exclusively to be found occupying a perfect alluvial level, bordering some water course, as the Mississippi, or its numerous branching outlets, such as the bayous Lafourche, Beauf, Black, Plaquimine, Red River, and the Teche.

These surfaces, of course, offer the most perfect facility for the construction of railroads; and the expense of the excavation necessary for throwing up a foundation of the requisite height for the reception of the rails, will be fully repaid in the ditches they will furnish for draining. The cost of the wood work and suitable flat iron rail, need not exceed some \$3,000 to \$4,000 per mile; and as the plantations hardly average this length of front, the above sum may be taken as the average maximum of cost to the planter, provided, each one assumes to build a road across his own grounds. The road should be located near the centre of the cane fields, occasionally converging towards the river, or receding from it, to lessen, in some degree, the sinuosities of the track. The cane could be carted to this road, in about one half the time that it can be brought to the present sugar mills, as they offer but a single point, and that, generally, quite remote from the centre of the cane. Once upon the railroad, a locomotive will move 100 car loads at the rate of 20 miles an hour, which would carry them to any convenient sugary, within so short a space of time, that all objections as to remoteness, would be entirely obviated.

Here then, we have the essential preliminaries for a division of labor, between the producer and manufacturer. Although they might be 20, or even 60 miles apart, they would, as regards time, be within one, two, or at most, three hours of each other. This arrangement would at once justify the construction of immense sugar mills, which could be managed with vastly more advantage under the general and undivided supervision of one intelligent mind, thoroughly experienced in the business, than by the planters, whose education and experience have not fitted them for this branch of operations; and who have neither the time nor proper hands for it, their attention being necessarily devoted to numerous other duties on the plantation. They would give up the manufacturing to those who could do it much more perfectly and economically than themselves, while their own supervision would be better employed in putting their fields, buildings, fences, ditches, &c., in the best condition for future crops.

The manufacturer could afford to express and convert the cane juice into sugar, for a much less price than it would cost the planter, and he would generally be able to make a more perfect and better article. The apprehension that this might throw the agriculturist wholly into the power of the manufacturer, would be removed by the speedy construction of numerous sugaries on the rout of the railroad, in which, for their greater security, the planters might own a controlling interest, so as to have the absolute management in their own hands. Their investment in the mills would effectually balance the power either might be supposed to have over the other, and preserve a mutual dependence from each.

The conversion of the cane into sugar, might be done either on shares or at fixed rates, varying, of course, with the relative value of the cane, and its ultimate product, as these might be effected by the richness or abundance of the former, or the higher or more depressed value of the latter.

The foregoing arrangement would enable multi-

tudes of small capitalists to embark in the cultivation of cane, on small farms, as they now do with corn, oats, rice, potatoes, &c., and with a certainty that they would be amply remunerated. It would also effectually break up the aristocratic feature, which now characterises sugar planting, beyond any other agricultural pursuit in the United States; and it would accelerate and perfect this branch of our industry, and augment its product far beyond what is otherwise attainable.

While on the subject of sugar making, we will add, that we have recently conversed with a manager of extensive mills in Cuba, who says, he has frequently extracted 75 per cent. of juice from the cane. This has been effected by diminishing the motion, and increasing the strength of his rollers; by which he is enabled largely to augment the pressure. He has now ordered mills, in this city, having rollers 30 inches in diameter, with wrought shafts 10 inches in diameter, which are to have but two revolutions per minute. These will bear a greater pressure than any hitherto used, and the motion will be so slow, that it is presumed the expressed juice will run entirely from the cane, instead of a portion being carried over and reabsorbed by the bagasse, which is generally the result, as now managed.

It is believed that the late invention of purging the sugar by a centrifugal motion, by enabling the manufacturer to reboil the draining at once, will largely augment the most valuable product of the cane.

Other important improvements, which are said to have been lately discovered, in Paris, by the Belgian, Melsens, are sought after with great interest, though their extent and merit seem not yet to have transpired.

VALUE OF ANNEALED WIRE FOR FENCES.

In a conversation with Mr. Grant, of fanning-mill notoriety, he remarked that annealed wire never rusts. He stated that he had now a wire screen to a cellar window, which has been very much exposed, on the north side of the house, for thirteen years, and until the chestnut frame is quite rotten, while the wire, although of No. 16, and never painted, is still sound and good. He remarks the same fact in regard to wire used for fanning-mill sieves. We also have some experience to the same point.

In putting up some wire around a poultry yard, to prevent the fowls from flying over the pickets, (which, by the by, were only 4½ feet high, with two wires above, and answered a good purpose,) we used bright wire. This rusted off, and failed entirely in one season. We then used annealed wire, which, although much finer, is still sound and good, after three years' use.

Mr. Grant's opinion, corroborated by our own experience, is, that annealed wire exposed to the atmosphere, does not rust, at least, not enough to destroy it, and that it is a better preventive than galvanizing, or any other process.

This important fact should be borne in mind by all who are intending to build wire fence. We would remind our friends, that we furnish wire for fences, already annealed, as cheap as a good article can be purchased in the city.

SABIN'S WASHING MACHINE.

This truly useful machine, the inventor claims to wash perfectly clean, clothes, fine sheets, linen, &c., in three minutes' time, without the slightest

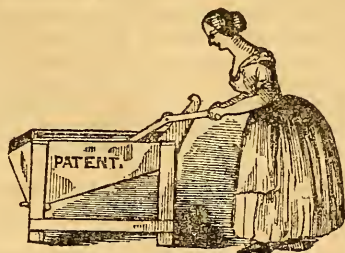


FIG. 84.

damage. It is perfectly plain and simple in its construction, not liable to get out of repair, and can be worked with ease by a child. Hence the ordinary washing of a private family can be done in about an hour, with a small amount of labor, and this, too, without injuring the clothes even so much as when ordinarily done by hand.

These machines may be had at the Agricultural Warehouse and Seed Store of A. B. Allen & Co., 189 and 191 Water street, New York, at \$7 each.

MR. ROBINSON'S TOUR.—No. 11.

Visit to the Plantation of Bishop Polk.—This is situated upon the right bank of the bayou Lafourche, about a mile above Thibodaux, and contains 2,500 arpents, 1,000 or 1,100 of which are in cultivation, and a portion of the rest cultivable. Of this, 600 arpents were in cane last year—358 used for sugar, and balance for planting cane, it being the bishop's intention, this year, to have 800 arpents. Whether he will succeed in getting that amount in, I cannot say; but I learn that the terrible ravages of cholera upon his place, which carried off above 70 of his people, has seriously injured his growing crop. From the 358 arpents last year, he made 510 hogsheads of sugar, and the usual quantity of molasses. The year before, he made from 470 arpents, 720 hogsheads. His usual crop of corn is about 200 arpents.

When I was on the place, Bishop P.'s people numbered 370; but the effective force of field hands was not more than one third of that number, owing to the fact that the stock is a very old one, and has been in the same family, (that of Mrs. P.'s ancestors, in North Carolina,) ever since the year 1697. Now, he has upwards of 30 entirely superannuated. There are, also, or were, at that time, upwards of 70 children under ten years of age. What a host to feed and clothe, and all to be looked after and provided for by the care of one man! Quite enough to frighten a New-England farmer.

The bishop is an experimenting and improving planter. He believes in good tillage and manure. He has one of the best fluke plows, made upon the place, that I have seen anywhere. The beam is 5½ feet long, 17 inches high—the handles fastened to the sides of the beam, and supported by a standard down to the centre bar, which bar is 29 inches long. The moldboards are 10 inches high, and 27 inches apart behind, and are made of wrought iron. He tried an experiment, last year, of stripping the cane of leaves, to give it a better opportunity to mature, and thinks he found his

account in the experiment largely in his favor. At any rate, he obtained upwards of 21 hogsheads of good sugar from seven acres, which was a much larger yield than any other acres gave. The stripping was done by children, whose labor was not of much value at that season for any other purpose; and even if it had been valuable, he thinks that the labor was not lost, because the work of the cane cutters was greatly facilitated. I forgot to inquire whether he used the leaves for fodder. The cane experimented upon, was first-year ratoons. It is needless to say that it was good, independent of the stripping.

The bishop also tried an experiment, last season, to ascertain the quantity of juice obtained. He weighed 2,300 pounds of cane, which gave 163 gallons of juice, weighing $8\frac{1}{2}$ lbs. to the gallon. He then reground the bagasse, and got 5 gallons more. Another experiment gave 67 lbs. of juice to 100 lbs. of cane. To do this, the mill must be first rate.

Bishop P. has made an improvement upon his mill that I like. Instead of elevating the cane on the carrier, so as to pitch it down into the mill, he brings it up to a level, and there it is seized upon by two rollers that feed it to the mill in a very regular manner. All the bagasse is put in a pile to rot, for manure, as he is satisfied that, however rich the soil may be at first, manure will be of great advantage after a few years.

The amount of team required upon this place, besides oxen, is about 75 mules or horses, the latter being preferred. Upon this point, there is great difference of opinion. Many contend that, as horses only cost about half as much as mules, will do more work, and live nearly as long, that it is economy to use them.

The annual expenses of this plantation average about \$8,000; and yet, they make a full supply of corn and hay, and manufacture almost everything that can be done upon the place. The wool and cotton are purchased in the bale, and cloth is spun and wove by the feeble portion of the people. Carts, wagons, plows, spades, hoes, &c., are all made upon the place. So are the shoes. But there is half a pound of pork for every mouth, every day, to be paid for, which swells the amount; but it is the intention of the bishop to try hard to obviate this by raising his own hogs. This is an experiment I doubt the policy of. The difficulty of curing pork in this climate, is one objection, but the main one is, that the labor bestowed upon cane, instead of corn, will buy more pork than the corn will fatten. Then why try to make it? I also doubt the policy, upon most plantations, of manufacturing cloth; though the bishop says that his is spun and woven by old people, and by mothers, just before and after giving birth to children, and by invalids, or convalescents, who are unable to go to the field. The whole business of manufacturing of the materials and clothing all the people, is in the hands of one negro, who receives a certain number of bales of wool and cotton, and therefrom provides all the clothes required by the people, without ever troubling his master, or overseer, about the matter.

It is worthy of note here, that all labor ceases upon this plantation, even during the rolling season,

upon the Sabbath. As the bishop himself is necessarily absent much of the time, he employs a curate, who preaches to his people, every Sunday, and conducts a large Sabbath school, and performs all the marriage and sepulture rites required. About one third of the whole number are members of the church, and are as consistent Christians as are usually found in any community.

The average yield of corn upon this place, is about 26 bushels to the acre, and the amount required for plantation use, about 11,000 bushels.

Mr. Botner, the very intelligent overseer, is of opinion that green bagasse injures land; but when rotten, is the best manure in the world.

He is also of the opinion that subsoil plowing won't pay cost. In this, of course we differ. But I give opinions as I find them, for what they are worth, for the use of others. He uses the "Beranger plow," but thinks the "Jacob plow" the best of any ever tried in stiff land. He also thinks the "sidehill plow" one of the most labor-saving kind of tools in plowing back ditch banks. Much of the land in cultivation is newly cleared, and, of course, full of vegetable matter. Upon this, he thinks it absolutely necessary to burn the cane leaves and tops, as it would be very troublesome to attempt to plow them under, and would be of no real benefit. The distance apart of cane rows, upon this place, is eight feet.

I am not willing to close the sketch of my visit to this place, without bearing testimony to the high character, both as a gentleman, an improving agriculturist, and a kind master to those whom Providence has placed him in charge of, which is universally accorded to Bishop Polk. As to his most excellent wife, she is certainly such a one as a great many planters' ladies might well imitate.

CUTTING AND CURING SUMACH.—Mr. Barclay, near Newburgh, N. Y., who has had much experience in the use of sumach, says, it should be cut when the leaf is in full vigor, which, in that vicinity, is in July. It is the sprouts of the first year's growth, only, that are cut. These are cured like hay, and are then threshed, the large stalks raked out, and the leaves sacked for market. If cultivated, he thinks the produce would be from three to five tons to the acre. It is worth from \$30 to \$60 a ton. Sicily sumach is worth from \$50 to \$100 a ton. Sumach is also prepared by grinding the stems and leaves altogether. Mr. B. relates that he bought, this year, four tons, that had been gathered in six weeks, by a man, his wife, and boy, besides doing their other work. For this, he paid them \$140, cash.

Mr. Barclay dresses about 300 skins a day, and uses from \$3,000 to \$4,000 worth of sumach in a year. This plant is also used largely by dyers.

RASPBERRIES.—Mr. Charles Downing, nurseryman, near Newburgh, relates that one of his neighbors, this season, sold the product of three acres of raspberries for about \$1,500. They were of the large, red Antwerp variety. To grow them in this latitude, Mr. D. says, the canes must be laid down and slightly covered with earth, say one or two inches deep, before the ground freezes, and thus kept till the spring opens.

SMALL vs. LARGE CALVES.

In my article in the September number of the *Agriculturist*, entitled "Large vs. Small Calves, &c.," I did not expect two opponents—our worthy editor and his Reviewer; but when I am bound for a controversy the more the better. It will bring out something in the end that will benefit some of us. The editor may advocate the shorthorns, but Reviewer seems to say he is a little "Herefordish;" therefore, he will be more disposed to enter on the subject of "Large and small calves." I am persuaded it is one of much importance to those breeders who have not turned their attention to it.

I did not say, in my article, that shorthorn cows produced "large calves;" but if the editor will have it so, the "same cap may fit" on other breeders of them. I shall leave it to practical breeders to prove my assertion, that mongrel females, from mongrel sires, invariably produce "large calves," unless too much impoverished to do so; then, they are nearly all head and legs. In such a case, "third-class" would be too high for them. I know some shorthorn cows that have produced small calves, and I will venture to say, that all those "crack animals" exhibited for public inspection, were small the first day they were dropped. I am willing to leave this to shorthorn men. I did not intend, by my language, to convey this evil to shorthorns; but as my worthy friend, the editor claims it, I am bound to believe it is so, and I will advance my opinion in another way (a). I am perfectly willing to admit I have seen beautiful shorthorns, excellent milkers, possessing symmetry, weight, and quality, but there are thirty mongrels, with high pedigrees, to one prime beast; and this uncertainty condemns them as a breed. I have seen cows, heifers, and calves, in high condition, with ragged, narrow hips, uneven chins, thick necks, large, coarse shoulders, hollow crops, and a paunch with sufficient dimensions for two such animals, heavy, coarse buttocks and thighs, loaded with black, flabby flesh, down to the hocks. Some of them had only three teats, others two, and few with good, sound, well-made udders, with bones nearly large enough to support a dray horse, and hides as tight as if prepared for the drummer. On the other hand, I have seen bulls, at our state fairs, take first premiums, with pedigrees of sires, dams, and grandams, "as long as your arm." "Crack stock," too, with all the above objections. Probably, Mr. Editor, when you reflect on this statement, you will find them to be facts too stubborn to be controverted (b).

It may appear warlike to express my mind thus candidly, but I do not "surrender" before facts prove to the contrary. WM. H. SOTHAM.

Black Rock, N. Y., Sept., 1849.

(a) If our correspondent infers, from anything we have written, that we meant to convey the idea that any *well-bred* shorthorn ever threw a large calf, he misunderstood us. Their calves are always small, because their bones are fine. No well-bred animals ever have large, coarse bones.

(b) Mr. S. cannot have a greater contempt for the worthless pedigrees of many an animal that is recorded in the Herd Book, than we have. It is these worthless grade brutes, installed there by the

cupidity of their breeders, as pure shorthorns, which have done the breed so much discredit. There are but a few families of shorthorns which should have ever been recorded there; all the rest ought to have been rejected as grades. But the mischief is done and past recall. The only remedy now is, for breeders to inform themselves which these good families are, and then breed from their descendants as purely as possible. The Herd Book is little understood or cared for yet, in this country. It is therefore only a waste of words for us to dwell longer on this subject.

'ANIMAL FOOD FOR HERBIVOROUS ANIMALS—
BONE MEAL FOR COWS.

THE ox, or bovine tribe, although decidedly herbivorous, in some countries is fed, during a part of the year, at least, on a proportion of animal food. In Norway for instance, the herds and flocks are driven to the mountains in summer, and are there depastured; but during the long winter, they are housed and partially fed on hay, and more plentifully on a thick, gelatinous soup, made by boiling horse dung with the heads of fish.

A writer, in the "Edinburgh Journal of Natural History," says: "We are assured, by M. Yvart, that, in Auvergne, fat soups are given to cattle, especially when sick or enfeebled, for the purpose of invigorating them. The same practice is observed in some parts of North America, where the country people mix, in winter, fat broth with the vegetables given to their cattle, in order to render them more capable of resisting the severity of the weather. These broths have long been considered efficacious by veterinary practitioners of our own country, in restoring horses which have been enfeebled through long illness. It is said by Peall to be a common practice, in some parts of India, to mix animal substances with the grain given to feeble horses, and to boil the mixture into a sort of paste, which soon brings them into good condition, and restores their vigor. Pallas tells us, that the Russian boors make use of the dried flesh of the hamster, (a species of rat, common in some parts of Europe and Asia, having two cheek pouches for holding grain,) reduced to powder, and mixed with oats, and that this occasions their horses to acquire a sudden and extraordinary degree of *embonpoint*. Anderson relates, in his 'History of Ireland,' that the inhabitants feed their horses with dried fish, when the cold is intense, and that these animals are extremely vigorous, though small. We also know, that in the Feroe Islands, the Orkneys, and in Norway, where the climate is still very cold, this practice is also adopted; and it is not uncommon, in some very warm countries, as in the kingdom of Muskat, in Arabia Felix, near the straits of Ormuz, one of the most fertile parts of Arabia, fish and other animal substances are there given to the horses, in the cold season, as well as in times of scarcity."

Other herbivorous animals, also, occasionally partake of animal food, to which they are doubtless led by instinct, as to a stimulus required by the system, for the maintenance of a due degree of energy. In Lapland, for instance, the reindeer devours the lemming, a little animal allied to the field mouse. The American reindeers are also accus-

tomed to devour mice, as well as to chew their fallen antlers.

In a similar manner, all horned cattle, particularly cows, from an instinct to supply the demands of nature, in the formation of hair, horns, bones, milk, and other parts of their systems, containing phosphate of lime, &c., are often seen gnawing bones. Hence, bone meal, of late, has been fed to cows, with the view of preserving their health, and in sustaining the proper secretions necessary for the growth of the fœtus, and the requisite qualities of their milk.

THE COW—HER DISEASES AND MANAGEMENT.— No. 18.

Black Leg, or Quarter.—This is a disease both very dangerous, and sudden in its attack, and generally kills the animal in twenty-four hours, or less. The cause of this affection has been ascribed to an undue quantity of rich food, while, at the same time, the cow is only in a growing state, as it very seldom attacks animals after two years of age. Hence it will appear to depend on too great an excitement of the system, which produces violent inflammation of a part, which rapidly ends in mortification.

The attack begins in the joint of a leg or thigh, and sometimes in a foot. It is first discovered by a lameness of the animal, and the part, when examined, discovers a swelling, showing that air has made its way between the flesh and skin. Its progress is to rise upwards and spread over that quarter which is first seized. When it rises to the back or kidneys, it then quickly proves fatal.

From this view of the disease, bleeding is the principal remedy to be depended upon, which should be immediately begun, and carried to the same extent as in the more active inflammations already described. In doing this, the affected part must not be omitted, and "scarification," or cutting away, so as to unload the blood vessels, will be of great service. After this, the wounds should be dressed with equal parts of common salt and salt-petre finely powdered, by which means suppuration will be brought about, and the disorder put to a check. Some further assistance may be procured by well fomenting the part by the following prescription:—

Take of camomile flowers, $\frac{1}{2}$ lb.; wormwood, a large handful; juniper berries, 4 oz.; bay berries, (*Laurus nobilis*), 4 oz.; beer, or ale grounds, (emptyings,) 6 quarts; vinegar, 1 quart.

The whole to be boiled for a quarter of an hour, and then applied by dipping into the liquid large pieces of flannel, and fomenting the affected part. As the success of a fomentation mainly depends on the heat it contains, it will be necessary to keep it hot by means of a chaffingdish, or pan of coals. When the fomenting is finished, the cloth should be allowed to remain, and the animal covered up so as to avoid catching cold. This process may be repeated twice a-day, as long as it may be found necessary.

In this treatment, clearing the bowels should also be attended to, which will facilitate the operation of the more active remedies.

From the dangerous nature of this disease, it is of the highest consequence to be able to prevent it;

and to young cattle, which are placed in rich pastures, the following medicine may be given two or three times in the course of the year:—

Take of flour of sulphur, from 3 to 5 oz.; nitre, $\frac{1}{4}$ oz.; grains of Paradise, $\frac{1}{2}$ drachms.

To be given at one dose in three pints of water gruel, mixed with a gill of molasses. This remedy should be succeeded, each time, by bleeding.

Jaundice, or Yellows.—The cause of this disease is evidently an obstruction of the regular passage of the bile from the gall bladder into the bowels, an obstruction which may proceed from various circumstances; as the formation of stones in the gall bladder, that frequently stop up the passage. These stones seem to be connected, in some way, with the food of the animal, and the cure of this species of complaint is effected chiefly by a change in her diet, or placing her from dry fodder upon green, succulent pasture. The disease may also proceed from hard tumors, or swelling, in the neighborhood of the gall bladder; as from an enlarged liver or spleen. In these cases, the cows are generally old, and the malady is to be considered as a mark of a worn-out constitution, and is therefore only an indication of a diseased state of one or more of their organs.

This complaint is chiefly known by the white of the eyes, the inside of the ears, and the roof of the mouth, all of which, on examination, have a yellowish tinge. It is also attended with a sense of itching; the urine is highly colored; and the dung is generally hard and black, from the costiveness which always attends the disease. There prevails, also, a great inactivity, or sluggishness, and the animal does not care to be moved about. As the disease advances, it is accompanied by a considerable fever.

In directing the cure of this complaint, much attention is to be paid to the cause from which it arises. The first object is to promote a discharge of the bile into the bowels; and this is to be done by purging, which is the more necessary, as costiveness is a leading mark of the disease, and tends to increase that heat, irritation, and fever that accompany it. In this case, sulphur is the best purgative, which may be administered in the following manner:—

Take of flour of sulphur, 9 oz.; salt-petre, (nitre,) $1\frac{1}{2}$ oz.; grains of Paradise, 5 drachms.

To be mixed together and given at one dose in two quarts of water gruel, sweetened with half a pint of molasses.

The operation of the sulphur may be succeeded by diuretic and opening medicines, like the following, to be given at one dose in two quarts of water gruel:—

Take of flour of sulphur, 3 oz.; nitre, $1\frac{1}{2}$ oz.; grains of Paradise, 6 drachms; valerian, $\frac{3}{4}$ oz.; Castile soap, $1\frac{1}{2}$ oz.

Along with these medicines, great attention should be paid to the diet of the cow. It should be of a soft, succulent nature, as warm mashes made of bran, malt, or Indian meal; and these should be accompanied with a good deal of diluent drink, in which a handful of salt has been dissolved. As soon as recovery takes place, if the season permit, the animal should be turned out to

grass; and if salt marshes are near at hand, they are preferable to any other pasture, as they will carry off any remains of the disease.

NEW THINGS AT THE STATE FAIR—HOUSEHOLD MANUFACTURES.

AMONG the number of new implements constantly being invented for the farmer's use, we noticed at the late state fair a very simple, cheap, and effective little machine to facilitate the doing up of fleeces of wool. The fleece, being rolled together by hand, is laid upon the machine, standing near by, when, by a single pull of a short lever, four arms, or rather hands, take hold of it and compress it into a very compact bundle, leaving good room for tying. We noticed that hundreds looked upon this machine, and wondered what it was for; but found no name upon it, nor owner to explain its use. We would like to know the inventor.

Mr. Truman Sherman, of Mohawk, exhibited a new press, suitable, according to size, for cheese, lard, wine, hay, or cotton. The working part is of iron, and the power upon the cam principle. It is simple, strong, and effective. We may have it on sale soon, and will then give a cut and further description.

A double plow was exhibited by Mr. French, of Detroit, which promises to be of some value as a labor-saving machine. This implement consists of two shares upon one beam, the first cutting a furrow, say five inches deep, and the second taking up and turning over a slice four or five inches deeper from the bottom of the same furrow. It takes less team and hands than it would in following with a separate plow.

Although the exhibition of household articles was meagre enough, the annexed list will show that there is one woman still among us who teacheth her handmaidens how to spin, and plieth her fingers busily. All the articles named were exhibited by Mrs. B. R. Voorhees, of Amsterdam, N. Y., and mostly manufactured by her own hands. She designs all her own patterns, and prepares everything from the raw material, even her indelible ink; and her work shows great taste and skill, as well as industry. We are assured that the articles enumerated form scarcely a tithe of what might have been shown, for her house is filled with such things.

We presume she does not spin so much street yarn as some of her sex; or she could not find time to spin so much woolen and linen.

As first in importance, we will commence with the staples—

- 1 Double carpet,
- 2 Pair of rose blankets,
- 1 Embroidered farmer's sack,
- 1 Dozen meal bags,
- 1 Double carpet coverlet,
- 2 Large woolen knit shawls,
- 1 Blanket shawl,
- 2 Pair of woolen stockings,
- 2 Pair of linen do.
- 2 Pair of cotton do.
- 2 Pair of worsted do.
- 1 Piece of broadcloth, 20 yds.
- 1 Piece of linen, 20 yds.

Three cases of household articles manufactured from the raw material, consisting of 2 pair of sheets; 6 pair of pillow cases; 6 towels; 6 doyles; 2 check aprons; 4 damask table cloths; 2 linen pocket handkerchiefs, with thread lace borders; 2 linen shirts; 1 carved bone fan, in imitation of ivory; 1 lb. of linen sewing thread, variety of colors; 1 set of fancy knitting, namely, 1 large table cover, 2 tidys, 2 doyles, 2 pair of infant's stockings, 2 pair of infant's socks, 2 pair of suspenders, 2 lamp mats; 1 pair of stockings and 1 lady's cravat, made from flax which grew on H. Clay's farm; 1 embroidered vest, made from the list of a piece of cloth manufactured by the Northampton Woolen Company, of which a suit was made and presented to H. Clay. This suit was designed to be worn at his inauguration, in 1845. The thread used in the embroidering of the vest was spun from the flax mentioned above; 1 lady's embroidered dress, on American satin; 1 lady's sack and cravat, embroidered on the same material; 1 lady's work box, consisting of almost every variety of thread, floss, and worsteds, that might be required in almost any kind of plain or ornamental work; 3 lady's reticules, made from homespun twine; 1 embroidered comfort; 1 pair of gaiters, and 2 pair of embroidered slippers.

Another case of fancy articles consisted of the following:—

2 large embroidered shawls; 1 stitched and stuffed bed quilt; 4 embroidered pocket handkerchiefs; 6 pair of embroidered cuffs; 1 wrought skirt; 1 pair of embroidered suspenders; 1 linen wrought veil; 1 pair of wrought bracelets; 2 capes, and 2 collars, bead work.

The following articles were ornamented with original designs, and executed with a pen and indelible ink:—1 dozen pocket handkerchiefs; 1 lady's sack; 2 gentleman's vests; 2 pair of cuffs, and 2 collars; 1 infant's dress; 1 lady's skirt.

EXPERIMENTS WITH MANURE.—Mr. Wyckoff, near Newburgh, says that he bought stable manure at fifty cents a load, and applied it to potatoes, by which he made fifty per cent. It is a sort of motto with him, that "the more manure he buys, the more money he makes." He says that one fourth of an acre in melons produced \$75, and many other garden products will equal that; and yet, the village of Newburgh is supplied with such things from New York. The farmers around here do not understand their interest sufficiently to induce them to improve and cultivate their land thus profitably.

Mr. Barclay, near Downing's nursery, has very much improved his land by the refuse of his morocco factory. He uses the spent sumach to absorb the liquid, and by the liberal use of this, he made a warm piece of land produce forty bushels of wheat per acre.

CEMENT.—The best cement ever used for rough-coat plaster on the outside of buildings, is made of clean, coarse, sharp sand, mixed two parts, by measure, with one of good, fresh-slacked, stone lime. If the sand is not entirely clean, put it in a tub or trough and stir it until every particle of clay and vegetable matter is washed out.

REARING AND MANAGEMENT OF POULTRY.—
No. 3.

Selection of the Cock.—"The courage of the cock," says a modern writer on "Ornamental Poultry," "is emblematic; his gallantry admirable; his sense of discipline and subordination most exemplary. See how a good game cock, of two or three years' experience, will, in five minutes, restore order in an uproarious poultry yard. He does not use harsh means of coercion, when mild will suit the purpose. A look, a gesture, a deep, chuckling growl, gives the hint that turbulence is no longer to be permitted; and if these are not effectual, severe punishment is fearlessly administered. Nor is he aggressive to birds of other species. He allows the turkey to strut before his numerous dames, and the Guinea fowl to court his single mate, uninterrupted; but if the one presumes upon his superior weight, and the other on his cowardly tiltings from behind, he soon makes them smart for their rash presumption. His politeness to females is as marked as were Lord Chesterfield's attentions to old ladies, and much more unaffected. Nor does he merely act the agreeable dangler; when occasion requires, he is also the brave defender."

Much has been said relative to the selection of the cock; but all, in the end, come to one point. Whatever be the breed to which he belongs, he should exhibit the distinctive characters of that breed in full perfection. He should be bold, lively, clean made, with close, glossy plumage, a high head, short bill, and a bright eye; the color of his comb and wattles of a rich, shining vermilion; his crow should be clear, loud, shrill, and long-drawn; his breast, broad and fleshy; his thighs, muscular, firm, and covered with feathers; his insteps and ankle joints, stout; his claws and spurs, strong, pointed, and slightly hooked; and lastly, he should carry himself with a proud, yet graceful air, and should be in perfect health.

Some cocks, especially when they are getting past their prime, say at the age of five or six years, are unsocial, vicious, and tyrannical. Instead of scraping up delicacies for the hens, and collecting them around him by a clucking note of invitation, the surly bird attacks them without provocation, tears their combs, and otherwise injures them. Let such a despot be dethroned from his proud eminence as soon as possible. On the other hand, a young cock, in his prime, will sometimes take a hatred to some particular hen, and treat her with marked antipathy, although he will conduct himself towards the rest of his coterie with a grace becoming to a gallant cavalier. The entire life of the domestic cock, however, shows that he is a most excellent family man, placing his whole care and study in providing all necessaries for his household. For this bird devotes whatever energy he has, the live-long day, to the good of his dependents, and is solicitous about nothing else than self.

Choice of Hens.—The hen is deservedly the acknowledged pattern of maternal love. When her passion of philoprogenitiveness is disappointed by the failure or separation of her own brood, she will either go on sitting, till her natural powers fail, or she will violently kidnap the young of other fowls, and insist upon adopting them. But all hens are not alike. They have their little whims and fan-

cies, likes and dislikes, as capricious and unaccountable as those of other females. Some are gentle in their manners and disposition, others sanguinary; some are lazy, others energetic almost to insanity. Some, by their very nature, are so mild and familiar, and so fond of the society of man, that they can scarcely be kept out of his dwelling; others seem to say, "Thank you, but I'd rather be left to myself."

The good qualities of hens, whether intended for laying or for breeding, are of no less importance to be attended to, than those of the cock. To gratify the curious reader, and show what the ancients thought of the points of a hen, we give a quaint passage from old Leonard Mascall. Following Columella and Stephanus, he says, "The signes of a good henne are these: "to be of a tawnye colour, or of a russet, which "are counted the cheefest coloures, and those "hennes nexte which hath the pens of their winges "blackishe, not all blacke, but parte. * * * "Their heads oughte not to be great, and "their tails oughte to be in a meane, and her "breast large, and her body deepe and long, for the "greatest hennes of body, are not the aptest hennes "to lay, nor yet for that purpose so naturale. As "for those hennes which have hinder claves, they "will commonly breake their egges in sitting there- "on, and they sit not so surely as others, and will "ofttimes eat their egges. As for those hennes "which doe call or crowe lyke the cocke, or doth "creke and scrape to help the same, ye shall pluck "off the greatest feathers of her wings and give "her millet-wheat to eat." To this we may add, they should be of middling size, of robust constitution, with bright eyes, pendent combs, yellow or bluish legs and feet, and not over four or five years old.

ORANGE-COUNTY AGRICULTURAL FAIR.

THE Orange-County Agricultural Society held its annual fair, this year, at Goshen. Notwithstanding this is one of the richest agricultural counties in the state, the efforts of a few friends of improvement, who have labored year after year to build up an agricultural society in the county, and awaken an interest that should make its annual exhibitions worthy of such a county, have not been crowned with success. There are perhaps some twenty gentlemen connected with the society, who are devoted to the cause, and spend time and money freely to support the interest so intimately connected and promoted by agricultural shows; and perhaps as many more who assist in getting up the show for the sake of the premiums; while the great mass of the people care no more for it than they do for a militia muster, menagerie, circus, or any other "show" that brings a crowd of people together.

Now, whether these people could be induced to read good books and papers upon agriculture or not, is a question; but I have no doubt it would be far more beneficial to the county to expend the same amount of money that is devoted to premiums, in the free circulation of such works; for, in truth, where the competition is so very small, as at the late fair, the interest excited really amounts to just nothing at all. Only think of "the greatest butter county in the world," showing fourteen very small parcels

of butter, and a much less number of cows, and none of them of extraordinary quality. There was one bull with some good points, but more bad ones. One of them lately gored his owner to death, which should have condemned him from ever being exhibited to the public as a fine animal. The only recommendation to another one, was, to show that black cattle can be bred with a white band around them! There was one yoke of good fat cattle, and a few of some pretty good working oxen, but bearing no comparison to those usually shown at Worcester, in Massachusetts.

There were a few pretty good horses; one sow and pigs; one boar; another sow with three shoats; and fifty sheep; which, with the exception of a few young cattle, comprised the entire show of stock in this great grazing county. Among the sheep, there were some first-rate Southdowns, exhibited by Mr. Edward Waite.

The show of agricultural implements, farm products, fruits, and household manufactures, as that of the stock, could not well be excelled in meagreness, nor bad arrangement for exhibition. The whole was upon the order termed "scattering."

On the first day, the crowd of persons, in town, was very great, and the disposition to indulge in strong drink, not at all creditable to this cold-water age.

On the second day of the fair, there was a plowing match. Will it be believed that, amidst the thousands of plows in this county, only four could be started for the premium?

In the afternoon, Judge Denniston delivered a really excellent address, but it produced about as much effect upon the audience as I have often seen from a sermon, to a sleepy congregation, in a warm day in August.

Until a dawning of a new light shall break in upon the minds of the Orange-county farmers, the few friends who devote themselves to all the trouble, expense, and vexation, attendant upon these annual fairs, might as well save themselves the labor of getting up a show for the gratification of the idle curiosity of those who only reward them by jeers for their failure.

R.

MASSACHUSETTS HORTICULTURAL SHOW.

THE twenty-first annual show of this society opened in Boston on the 19th of September. Owing to the universal scarcity of fruit, the exhibition was much less than usual, though some of the specimens of peaches, pears, and apples were very fine.

The show of cut flowers was pretty good. But one of the most interesting things in the room was a parcel of seventy kinds of potatoes, thirty of them seedlings, exhibited by S. W. Cole. Strange that such an important article as this could find no better place than under one of the stands.

This association is rich as a society, besides being patronized by some of the best men in the state. We enjoyed a feast of reason, as well as fat things, at dinner, in company with several members of the society, one day in the course of the show. One of the subjects discussed was the importance of selecting thrifty stocks for pear grafts, and that the color of the wood of the stock should correspond with that of the graft.

BROWN'S EARLY CORN.

THIS variety of corn has the property of early maturity. I planted it the 27th of May, last, nearly two weeks later than the usual time of planting corn, in this vicinity, and it was cut up quite two weeks before other kinds were ripe. It has the advantage of producing a fair-sized ear, with large grains, on a small stalk, so that it cannot possibly exhaust the land so much as other varieties, while it furnishes about all that is desirable to raise for fodder; for, when cut up and husked, the stalks are nearly as good as topped corn.

Several persons have planted this corn, and do not like it. In most cases that have come under my observation, it has been planted under such disadvantages, that no corn could be expected to produce a crop; some planting either too late, or in cold, wet situations, while others, again, have planted it on dry soils and so far apart, in the rows, that it was injured by the droughts of the season.

To raise this corn advantageously, it should be planted on good soil, and it would be better if it could be started early, by stimulating manure, as guano, pondrette, or any other rich compost. It should be planted three by two and a half feet apart, at least; even three by two feet will answer. By pursuing this course, I have no doubt but that as large a crop of good corn could be raised, as with any other variety, if not more.

There is another advantage which this corn has. By its early habit, it can be harvested, so as to enable it to be used for early feeding, which often is very desirable, as well as for grinding for new meal.

H. A. F.

Poughkeepsie, September, 1849.

IMPORTED CATTLE.

ON board the ship Isaac Wright, there arrived here from Liverpool, late last month, the heifer Red Rose, for Col. J. M. Sherwood, of Auburn, New York. Her pedigree is given at page 317 of our October number. She is from the celebrated Princess tribe of shorthorns, and was bred by Mr. Stephenson, of Wolveston, England. She was selected for Col. Sherwood, by Mr. A. Stevens, last year, when in England, and does great credit to his taste and judgment; for we class her at once, among the finest animals we ever saw.

This heifer, as well as the stock which Mr. Stevens brought over with him, last winter, for Col. Sherwood and Mr. Sheafe, are *unadulterated shorthorns*, without a particle of the Galloway cross. We hope, now, that the advocates of this cross will take the pains to examine these fine animals, and tell us wherein they can be "improved" by the Galloway breed. We would particularly like to know how such an animal as Red Rose could be better "ribbed up" by a Galloway, be given a deeper, wider brisket, a finer head and eye, or superior handling qualities. We think, to accomplish this, they will have to call on the shade of the late Mr. Berry, and palm off to the credulous Mr. Youatt, another apocryphal history of the shorthorns!

A VALUABLE APPLICATION TO PEACH TREES.—Mr. John R. Caldwell informs us of a friend of his, who uses one quart of tar, mixed in one gallon of hot water, to each of his peach trees. This kills all worms, and also gives vigor to the tree.

OBITUARY NOTICE OF COL. KIRBY.

COL. EDMUND KIRBY, of Brownsville, N. Y., long distinguished for his intelligence and zeal in the practice and improvement of agriculture, died at Avon Springs, on the 20th of August last. Col. Kirby entered the army in 1812, and during the then existing war, in which he subsequently served as aid-de-camp to General Brown, was distinguished by his military character and acquirements. He held the office of paymaster for many years previous to his decease, and while in that capacity, during the late war with Mexico, acted as a volunteer aid to General Taylor, during a part of his brilliant career.

PREMIUM FARM HOUSE.

ALTHOUGH there were no premiums offered by the New-York State Agricultural Society, last year, for designs of farm buildings, the following plans and description were presented by Mr. F. R. Elliott, of Cleveland, Ohio, for which it was recommended by the committee that he should be awarded a silver medal and diploma.

In offering the accompanying plan for a cheap and commodious country house, I do not lay special claim to originality, in all particulars, although I do not know of one exactly like unto it ever having been published or built.

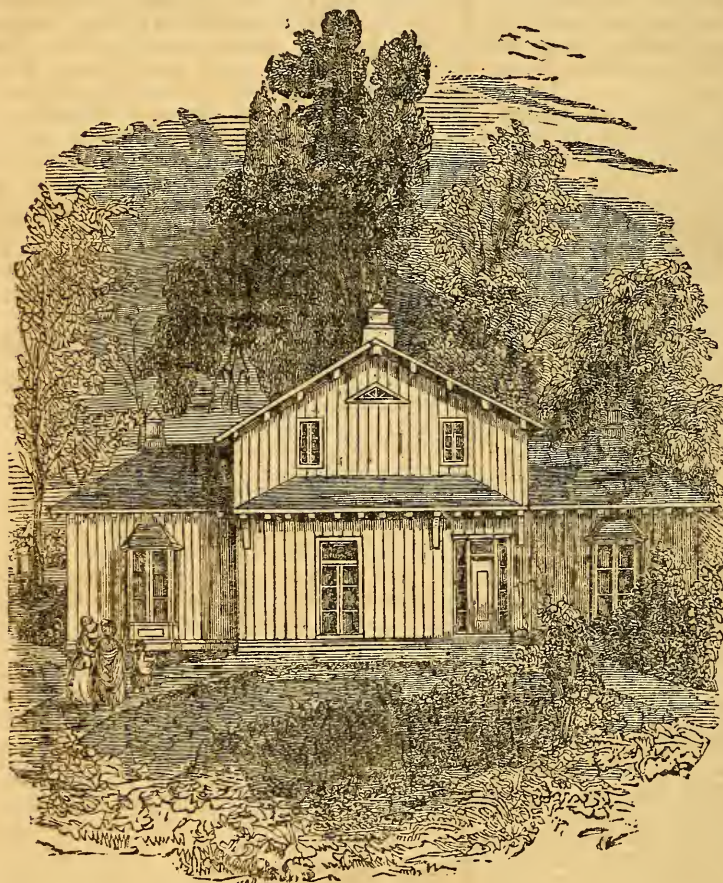
The elevation and plans, figs. 85, 86, and 87,

comprise the house as I myself prefer it. I will confine myself to the elevation and ground plan, fig. 87. It is particularly designed to point either north or west, and should, if possible, be placed upon a slight rise of ground from the adjoining public highway or surrounding grounds.

The value of land in the country, as compared with the disadvantages of basements for kitchens, etc., should not receive a thought; and while this plan may be said to cover a large area of ground, I trust to be able to show that it can be built for a much smaller amount of money than any plan of equal convenience, room, and character yet published. A free circulation of air, connected with large and convenient rooms, are material points, and in this they may be had. The size of cellar may be according to the wishes of the builder, but my estimate and plan is for a cellar only under the wing in which is the kitchen, that being of size sufficient to hold all vegetables, etc., that will be required for the consumption of a large family.

Vegetables for stock should, for easy access in feeding, as well as the injurious effects sometimes resulting from a too large quantity stowed in the house cellar, always be confined to the barn cellar.

The main house is 24 by 32 feet, with 18-foot posts, and having a porch 7 feet wide in front, supported by brackets. The wings are each 16 by 40 feet, with 11-foot posts, and falling back 12 feet from the front of the main building. Of the first story front, the main building has a single door panel, and one large window, opening each



FARM HOUSE.—FIG. 85.

Col. Kirby was for many years interested in a large woollen manufactory, at Brownsville, where he owned an extensive farm, and kept a large flock of fine-wooled sheep. But his enlarged views and patriotic purposes were not limited to his own peculiar interests, but with the liberality of a patriot and philanthropist, he eagerly promoted any object connected with the agriculture of the state. He has long held important offices in the State Society, and was, at the time of his death, one of the commissioners for the organization of our proposed state agricultural school.

way inside upon hinges. The wings have each an oriel, or bay window, projecting one foot, and having the centre lights of glass hung upon hinges, to open inside. The second story front, the two windows, like the one below, are divided by a heavy style, and open inside. The covering, as indicated in the elevation, is to be of inch pine boards that have been run through a planing machine, and cut to a width and thickness. These battened with half-inch stuff three inches wide. As the lower story of the main building, as well as wings, are all designed to be 11 feet high in the clear, it is evident that the best length of boards will be 12 feet, as they will allow of no waste.

The estimate of cost here given is for plain, but good work. No mouldings, turnings, nor carvings, as all such only add to the labor of the housewife in keeping them clean, and are really no ornament as taken in keeping with other articles usually accompanying the country.

The fireplace, in the parlor, is designed to be carried to a level with the chamber floor, and then carried horizontally along the side of the wall until it reaches the partition of chambers, when it may rise diagonally to the centre. Some may prefer a sheet-iron flue, which could, like a stove pipe, be removed from the chamber during the summer months.

That my estimates of costs are correct, I can only say that they are such as I have contracted in building this house, and are therefore reality, and not fiction nor supposition.

Permit me now to take you through the rooms, entering, as we should, at the main, or front, entrance. First, we have a hall 8 feet wide, running the entire length of the main house. From this hall, 13 feet from the rear commence the stairs, ascending 8 feet, to a platform of 4 feet wide, where they turn, and again rise to the chambers. Upon our left, as we enter the hall, is first the parlor, 16 by 18 feet, and next adjoining it the dining room, 16 by 14. Opening from this, we have the front of wing, 16 by 16, a large bedroom; and from this, as also from the dining room, are doors to kitchen, 14 by 16; a fireplace in both bedroom and kitchen, and connected with that in the latter, should always be built a brick oven. The dining room may be warmed by a stove, grate, or fireplace, and may be carried to the chimney from the kitchen; or a hot-air drum may be placed in the chamber overhead, and the heat pass that way, and so conduct to the chimney in the centre of the main house. The pantry is shown from the kitchen, the cellar stairs, and also a small room for servants; or where no servants are kept, the latter may be left for a wood house.

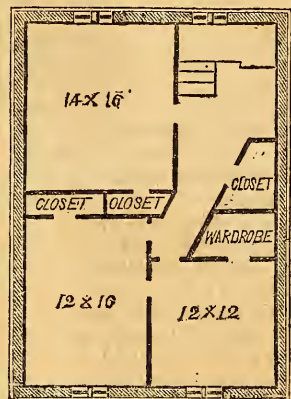
The dining room and parlor are separated by folding doors upon hinges; as not often expected to be wanted, and as costing less than when

constructed to roll or slide, the latter is, of course, preferable. The cellar is designed to be 7 feet deep, and the whole house to stand 18 inches from the ground.

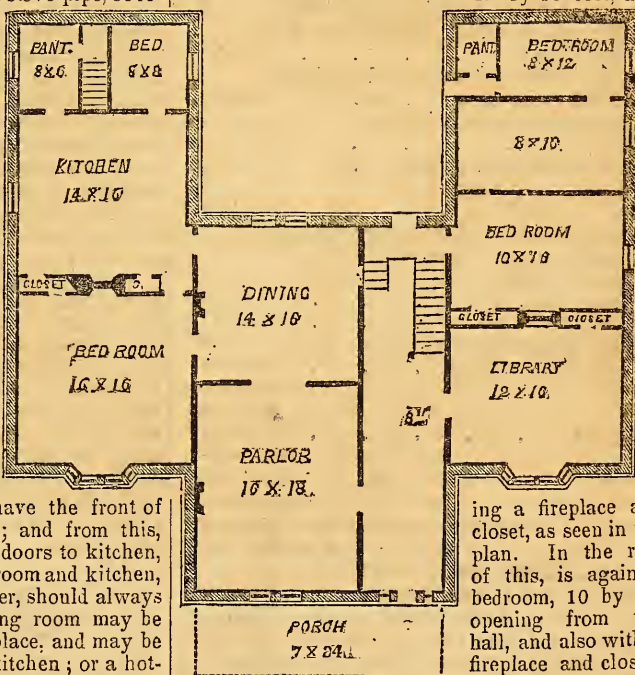
A closet is seen by side of chimney in kitchen, the lower part of which is designed for kettles, etc., and the upper for crockery or china closet.

The closet opening into the bedroom, I think, should contain a bath tub, and be so arranged that warm or cold water could be received from the kitchen. Wardrobes, separately built and placed each side of the bay window would be suited to the room.

Let us now go back to the hall. On the right, just at the foot of the stairs, we enter the library, 12 by 16 feet, hav-



SECOND FLOOR.—FIG. 86.



GROUND FLOOR.—FIG. 87.

ing a fireplace and closet, as seen in the plan. In the rear of this, is again a bedroom, 10 by 16, opening from the hall, and also with a fireplace and closet. The rear of this, I would cut off from

the rest of the house by a continuous partition; and in large families, where much help is kept, a door should open from the outside into a small hall, 4 by 4, as shown; and then a bedroom 8 by 12; and again two bedrooms 8 by 8. These furnish suitable rooms for farm laborers, and save the travel and dirt through the main hall, and so up stairs. The same, also, of the bedroom for servants, in rear of kitchen. It is near

their work, and no excuse can be offered to pass through any rooms, except to sweep them, &c. The bedroom, rear of library, is so distant from all others, and having a fireplace, as to render it suited to sickness. If desired, a passage way may be made through the closet, connecting it with the library.

ESTIMATE OF COST.

1,000 feet hewed timber, at 2c.,	\$20.00
4,134 " inch pine boards, planed, 10½c.,	44.65
4,100 " roof boards, at 7c.,	28.70
1,200 " ½-inch, for battings,	12.60
500 feet 1½-inch, second clear, at 13c.,	6.50
200 " 1¼ " do say,	3.00
182 " 1½ " for water table,	1.75
21,000 shingles, at \$2.50,	52.50
968 feet, or 66 pieces, 4 × 4 scantling,	
11 feet long; 320 feet, or 24 pieces,	
10 feet long; 171 feet, or 8 pieces,	
16 feet long; 168 feet, 3 × 4, 14 feet	
long; 576 feet, or 32 pieces, 2 × 4,	
18 feet long; 880 feet, or 80 pieces,	
2 × 4, 11 feet long; 176 feet, or 16	
pieces, 2 × 4, 11 feet long; 184 feet,	
2 × 4 long as possible; 118 joists,	
2 × 8, 16 feet long; 16 joists, 2 × 8	
10 feet long; 54 joice, 16 feet long	
for ceiling joists. Estimate all the	
scantling at	50.00
Joiner work, to frame and enclose,	
make sashes, &c.,	200.00
Glass and putty for windows,	20.00
Nails,	15.00
Door and window swings,	10.00
	<hr/>
	\$464.70
This is exclusive of the cellar wall and	
underpinning, which, with the chim-	
neys, may be, (inclusive of materials),	
made for	125.00
Flooring,	20.00
Inside joiner work and lumber,	150.00
Lath, and plastering,	200.00
	<hr/>
	\$959.70
Extras,	40.30
	<hr/>
	\$1000.00

This, of course, does not allow for the digging of cellar nor hauling of lumber; that must be calculated according as the distance is far or near.

To make the house pretty, this way of fronting, the manner of finish would have to be more expensive, and a gable should be raised from the roof, and a window to correspond be introduced over the entrance door, or a projecting porch forming the hall, might be constructed.

ARROW ROOT.—Attention was called, in our last number, to this important article. Are our southern friends aware that this excellent food can be raised as well in Mississippi and Louisiana as in any part of the world? Mr. Affleck, of Washington, Mississippi, has raised it, and probably could give some valuable information upon the subject of its culture.

TRANSPLANTING LARGE TREES.

We find in the "Utica Gazette," facts showing that it is not necessary to select small trees for transplanting in order to ensure their growth. Large trees may be as successfully planted as small ones. The mode and result of an experiment, made by Messrs. Pomeroy and Dutton, of Utica, are thus given: These gentlemen removed several trees, comprising maples, elms, beeches, &c., some thirty feet in height, which were transplanted without being shorn of any of their branches. The process of removal was as follows:—In the fall, before frost, a trench was dug around the trees selected, from 10 to 15 feet in diameter, and the roots severed. In the winter, when the ground had become solid from freezing, the trees were pulled out by the aid of oxen and levers, with a mass of earth firmly attached to their roots. They were then transported erect on a strong sled, built for the purpose, and set out.

These trees grew in open land, a mile and a half from the city. They put on their foliage last spring as if wholly unconscious that they were not still in their native soil; and the enterprising gentlemen who undertook this unusual course, are rewarded with shade trees, which, by the old practice, it would have required twenty years to produce.

FLIGHT THROUGH CONNECTICUT, CONTINUED.

Yankee Farming.—After leaving the neighborhood of the "Old-Pond Meadow," I went on towards Boston. Now there are a great many other farms in Connecticut and Massachusetts, that have valuable tracts upon them, just as badly cultivated, or rather neglected, as the one described at page 321 of the last number of the *Agriculturist*. Orchards are to be seen all along the road, that look as though they have neither been pruned nor manured since "the year one."

There is around some of the old farm houses of New England, a peculiar look that is to be seen no where else. The house, a large square fabric, with a great stone chimney in the centre of the gambrel roof, standing upon one side of the road and close to it, at that, with an ancient mound, the debris of long-gone wood piles, immediately in front; and right opposite, stands the barn, with a fine display, along the fence adjoining, of old carts, wagons, sleds, harrows, plows, and stone drags, while there is abundant evidence, in the shape of droppings, to show that the cows have nightly possession of the road between.

Upon the right hand of the house, is the old orchard, fenced with a post and rail stone wall, richly ornamented with elder and poke berry, together with a stock of running blackberry vines. In the corner next the house and road, and not any too far from where the family eat and sleep, is the old hog pen, with a door open to the road, so as to give the occupants an opportunity to rusticate among the thrifty, well-manured crop of "Jym sen weed," (stramonium), that fills the lane to the right and left, affording a fine shade for the old sow and pigs. On the other side of the house, about half an acre of ground is enclosed by a very ancient picket fence, which bears the name of "the garden." Upon the south side, I suppose with a view to give the vegetables a due portion of shade,

stand three enormous pear trees, that never suffered from the pruning knife, nor from an overload of fruit. Upon the east side of this garden, a row of very tall quince trees effectually prevents the morning sun from sending his rays into this sacred enclosure to interfere with those plants that grow best in the shade. The other two sides are ornamented with two thrifty rows of currant bushes, the rusty stalks of which bear evidence of long occupation of the same ground. The centre is filled up with pumpkin, squash, melon, cucumber, and gourd vines, so arranged as to promote mixture, and perhaps ensure some new and valueless variety, together with a fine show of pole beans, sunflowers, and well-dried pea brush.

I like to have forgotten to mention that the old well, with its crotch, swape, pole, and old oaken bucket, forms a part of the line of fence in front of the door and about twenty feet from it, with a very nice place for the pigs outside, and ducks inside, to rusticate, or rather "mudicate."

A very useful little building, about a house, stands a little back and near the garden gate, naked and unadorned, with its door standing wide open, and fronting the road—as much as to say, there is no *privacy* about this place. There is a little interesting spot, also, upon the back side of the house, where the little brook meanders away from the sink spout, down past the lye leach, through the goose pond, into the pig-weed patch behind the garden; but for fear of the cholera, I won't go to look at that.

If you please, reader, we will go out where the boys are plowing. That land, to my certain knowledge, has been plowed for forty years, and never yet felt the share six inches below the surface, because the owner feared to turn up the "poor yaller dirt" and spoil the land. It is to be sown with rye this fall, and preparatory thereto, that fine crop of mullens is now being turned in. It cannot be manured, because there is only enough manure made upon the place to about half manure the few acres of corn, that must be planted each year.

Do you ask why the owner does not purchase guano, to give this poor old field a start, and enable him to raise a crop of straw and grass, so that he would be able afterwards to furnish its own manure? It is easily answered. He never heard of the article; and besides, if he had and should use it, that would subject him to the ridicule of the whole neighborhood. So he will sow three pecks of rye and gather nine, or, perchance, twelve pecks to the acre.

Next year, after the rye is harvested, the hogs, geese, and sheep will be turned in to gather up every scattered grain and nip off every shoot and green weed, and the spring after, it will be plowed once, just as deep as at present, and planted with corn, with about half a shovelful of dirt, dignified with the name of manure, to each hill. After the corn is gathered, the field will be again pastured, and the spring following, it will be sown in oats, and the crop will be such a one as any reasonable man might expect from just such a course.

The next season, the field will lie fallow, as it has this year, and will produce a similar crop of mullens, and five-finger vines.

That "pastur," just over the fence, was once cultivated in just the same manner as the above. It is

resting now. See what a luxuriant crop of white birches. They are very ornamental to the landscape. It is true, the grass is not quite so plenty and sweet, but then you see the shade is perfect. That is a very nice little brook that meanders through the pasture, and always affords water, because it is fed by springs, and that "swale" would give a valuable crop of grass if it were ditched; but as it is not, it affords a most luxuriant growth of alders, and these serve as a nice shade for the trout. It would be a pity to disturb them.

Here is a stone wall. It stands in the place of a fence. Be a little careful about climbing it, as it was built upon a new principle. Having been told that rails would make good ties, or binders, in a cobble-stone wall, the builder put them in lengthwise instead of going into the wasteful practice of cutting them up and putting them across, and the consequence is that an occasional broadside caves away.

Ah! what have we in this field? 'Pon my word it is buckwheat. Let us put on our spectacles and take a good look at it. It is very small, certainly, but is as good as could be expected from such a specimen of "Yankee Farming!"

In the next number of the *Agriculturist*, I will give a reverse of the picture.

New York, Oct. 2d, 1849. SOLON ROBINSON.

RENSELAER-COUNTY FAIR.

We had the pleasure of witnessing the annual fair held at Troy on the 26th of September. It was thronged by the enterprising population of that wealthy county, including large numbers of the *fairer* portions of the community, whose interest seemed to vie with that of the sterner sex, in the admiration justly excited by the occasion. Indeed, if the fruits and flowers, as well as the domestic fabrics, be credited to them, as no doubt they principally should be, they contributed their full share to the interest excited for the show. The exhibition in each of these departments was excellent, and reflects great credit on the taste and attainments of the county. The vegetable products were also varied and numerous, and many of them, superb specimens of the gardens and fields.

The Implements and Various Manufactures exhibited were such, as to have been expected from a community that embraces so much intelligence and perfection in their manufactories of almost every description.

The Show of Cattle was not extensive, but included some of Mr. Vail's choice shorthorns, and one superb cow of the same class, bred by L. F. Allen, and now owned by Mr. A. Stevens.

The Sheep and Swine were few, and not at all equal to what should have been exhibited among the numerous good animals to be found there, although some very fine specimens of each were on the ground.



The Horses were by far the most creditable part of the show, as far as numbers were concerned; and many of the animals could hardly be exceeded in their capacity and adaptation to the farm and road. Among these were the horse Alexander, Young Mambrino, and the numerous colts from Morse's Grey. Mr. J. T. Grant, the owner of this valuable animal, exhibited several of his colts

two or more of which received, as they richly deserved, the highest prizes in their respective classes. We rode after several of this family of horses, and found each strong, well-built, fleet, good winded, easily trained, and gentle—excellent either for the road or farm. Most of these could whirl a buggy with two persons, a mile, within four minutes, and some we think might be easily trained to trot within 2:45 to 3 minutes. We think them a valuable acquisition to the county or wherever they may be introduced. Our crowded columns will not permit so full a notice of this fair as we intended to make.

CONVERSATION WITH MR. H. L. ELLSWORTH.

THIS gentleman, from whom we always learn something new, called to see us a few days ago. His residence is at Lafayette, Indiana, where he is farming upon a tolerable large scale. He has 1,200 acres of corn, this year, that will average sixty bushels to the acre. He grows but little wheat, for the reason that he finds corn to be the best crop. He had 100 acres of the former unharvested this year, which was killed by rust. He gets his corn grown for five cents a bushel, and it costs about as much more to harvest it.

Among other things, he described to us a very simple, effective, and certainly a very cheap machine to cut up corn, which he has just invented. He took two pieces of scantling, five or six feet long, and fastened them together by a rude hinge at the point, in the form of a V, with a hickory bow, having a spread just wide enough to run between two rows of corn. Upon each side, he affixed a portion of the point of an old scythe, projecting out just far enough to sweep a row of corn upon each side. The bow serves for a handle and spring to keep the sides apart, and yet allow them to yield. Another bow, upon the top of each side piece, prevents the corn from falling on the machine. A couple of short, wooden teeth, sloping back, set in the forward part, keeps it from roofing. He then hitches a stout horse to the machine and lets him walk between the rows when the corn falls "like grass before the scythe." He then skips one row and cuts the next two, so as to set up the four rows upon the one standing.

Mr. Ellsworth is now fattening cattle, with his great corn crop, for New-York market. And the manner of getting them here is to be after this manner: He has his own boat, upon which he tows them up the Wabash Canal, to Toledo, with his own horses, freighting back pine lumber, &c. The boat is to be open, but has an oil-cloth cover to use, when required. The cattle will stand in two tiers, heads to centre, and as the boat cannot be wide enough, on account of locks, to allow them to stand at right angles with the sides, they will be arranged thus:  At Toledo, they will be shipped on  steamboat to Buffalo, at a cost of \$2.50 a head, and from there, by canal or railroad to Albany. As soon, however, as the Erie Railroad is completed, that will be the route, as the directors have assured Mr. E. that they will pursue a very liberal policy in this matter towards him and all others disposed to undertake to send forward provisions for this great city from the west.

Our readers can judge something of the magnitude of Mr. Ellsworth's farming operations, when we tell them that he is now building 28 miles of new fence in one job.

Mr. E. tells us that there are now in operation at the far west, three manufactories of corn starch; and from a sample shown us, we judge it is fully equal to wheat starch, and can be made a great deal cheaper. He also mentioned the value of kiln or rather steam-dried hommony, or grits of corn, for exportation. This article, we know to be an excellent substitute for rice. So is hulled wheat.

Mr. Ellsworth has adopted the plan of working cows in the yoke, to a considerable extent. They make excellent workers, and he finds it does not hurt them for breeding any more than it does to work mares, if done in moderation. He also sows rye for fall feeding, to a considerable extent, and finds that stock never get the scours from eating it; while wheat will give it to them directly. Grinding corn and cobs together, he thinks very highly of. For that purpose, he uses one of Bogardus' mills.

Such are a few of the facts one learns from an hour's chat with this enlightened 'agriculturist.' We hope to give our readers many such specimens of conversation, in the course of the next year, with some of the most enterprising and improving men in the country.

REVIEW OF THE JULY NUMBER OF THE AGRICULTURIST.

Profits of Poultry Raising.—I have often thought that the raising of poultry, in the vicinity of the city of New York, or any other city, might be made as profitable, comparatively, as this account of Dr. Chase, by selecting some suitable location and preparing for a permanent business. I should prefer a piece of woodland, where I could have at least four acres of ground, enclosed for a thousand hens [So large a number of hens has never been known to succeed well together.—Eds.] including a good watering place. The best and cheapest fence for a poultry yard, I believe, would be wire. Fowls raised in the yard would never fly over a fence eight feet high, unless hard driven. At least such is my experience.

Dick's Anti-Friction Cheese Press.—"Anti-friction" fiddle faddle. How can a machine operate without friction? If, by the use of this press, "the whey is entirely removed with half the labor usually required," we had better throw away all our old ones, and get this "anti-friction" machine.

It so happens that I have seen some dozens of new machines, each one saving half the labor of its predecessor, and yet it is not quite all saved yet. As I have never seen one of Mr. Dick's presses at work, I cannot say but that it is a very good one.

A Cow Depot.—This is a new idea, yet a capital one. But I am not quite so sure that it would be so good a business as you suppose. It would no doubt be good for purchasers, but is there sufficient business to be done among that class of buyers, who would pay a shilling premium for the advantage of buying of a dealer who would be "strictly honest?" If I were sure that it would be a profitable undertaking, I should earnestly urge some

one to go into the business; as I believe it would truly be a most valuable establishment for the people to have a place where they could, at all times, be able to buy just such a cow as desired.

Spare the Birds.—It is of no use preaching this doctrine. It never will be practised before men suffer just as the coffee planters of Madagascar did. Children are educated from infancy to destroy the birds, instead of studying their natural habits. It is true, that, in some parts of the country, the birds are in such excess as to do great injury to the farm crops; as, for instance, upon the great western prairies, or forest lands of Indiana and Illinois, where I have seen blackbirds by the million, and pigeons by the billion; but it must be borne in mind that it is in those states where we have seen accounts published of the "ravages of the army worm," that show that there is a full supply of worms for all the millions and billions of birds.

Method of Excluding Drones from the Hive.—If this method of the ancients is worth anything, the Yankees can improve upon it. Instead of spreading a fine net over the entrance, have a wire-work door that can be shut at any time, so as to exclude the drones and admit the workers through the meshes.

Summer Management of Sheep.—The directions here given about storing wool, are all upon too large a scale to suit ninety-nine out of every hundred readers. Pray, give something to suit that class who have never kept a flock and propose to start one of a hundred or more. Directions are given about "hoppling," &c., which is directly followed by the truism that it is owing to "poor fences" that they were learned to jump—another evidence of the fact that fences are the greatest curse of the American farmer. Thousands are deterred from keeping sheep, because of the system of trying to keep up fences where they cannot be kept up except at ruinous expense, and, in consequence, they are such as are just fit to teach sheep to jump. If there were no fences in many districts of country, how easy it would be for a neighborhood to combine and keep a real Nantucket sort of a flock.

Salting sheep is best done by making a permanent "lick," either of rock salt or by making salted clay balls, to be kept under a shed where they can go to it at all times.

In places where there is no natural shade, as upon the western prairies, a very good and cheap one can be made by setting a row of posts six feet long, four and a half feet above the surface, ten feet apart each way, with stout rails across, and covered with brush first, if convenient, and then with coarse hay. This would be all the better if an embankment of earth could be thrown up along one side. Such a cheap shade would pay cost every season, besides the humanity of the thing. It would also be beneficial to the flock in cold storms.

Clothes and Wool-Drying Machine.—If this new invention is anything like what this description recommends it to be, it ought to be immediately introduced into general use in this country. It is described as an English article. Has one ever been tried on this side of the water?

Cotton Manufacturing at the South.—Why here is an account of more of it in Mr. Robinson's letter than I had ever dreamed of in my philosophy before. It is a very interesting statistical article, and shows a great advance in manufacturing interest in the very country of all others that should make her own cotton fabrics.

Rural Architecture.—I have often entertained the same opinion here expressed by Mr. Davis, that the "American Agriculturist" is eminently calculated by its common-sense articles to commend itself to every intelligent housekeeper in the country; and yet it does not. Why? Because agricultural education has never been taught in our common schools, and because a taste for reading such works, has not been cultivated. If this, or similar works, were universally read, should we see such a want of taste in rural architecture, as we witness all over the country?

Management of Swine, No. 1.—I expected to find in this article, something in accordance with the title. For forty years, I have been trying to manage these abominable brutes, but have never yet been able to accomplish it. "The number of swine in the United States may be fairly estimated at twenty millions." Is it possible that every man, woman, and child, in the Union, if they were fairly divided would have a hog. Mercy! What a hoggish country! And does every one eat half a hog every year, barring the little that we send abroad? For, as a matter of course, we must eat up ten millions, or the annual increase would soon make us more hoggish than we now are. The amount is too enormous for belief! The amount of valuation I positively will not believe. What! Average all the hogs, pigs, old sows, and starved rooters, good and bad, at "\$3 per head?" Never. They are not worth a third of it. In the parts of the country where they are most abundant, pigs, which of course, go to make up the enormous number, are not worth a dime a piece. In fact, they are not counted as of any value at all. Is it possible that the writer believes himself, when he says that "from the rapid production and quick maturity of swine, they are made to yield a speedy return for the investment?" By "return" I understand profit. Now I dispute the whole premises. If all the swine that have ever been, now are, and I fear, ever will be in the United States, were justly charged with all that they should be, the whole family would fall so immeasurably in debt that the present estimated value of sixty millions would not begin to pay it.

They cost more than that in fences every year, including the mischief they do in breaking into enclosures.

Here is another item of charge against the family, which was related to me, to-day, by an old friend. "In early times," his father lived in Cherry Valley, and like all new settlers, thought he must have a "breeding sow;" and at great trouble and expense procured one, which, in due time, had ten stout shoats following her. One winter evening, the family all went in a sleigh to a neighbor's, leaving the house alone. Of course, as soon as they were gone, the old sow and her family began to prowl around and rooted the door open—all went in and closed the door after them. Then commenced the

work of destruction. The churn and blue dye tub both stood full in the corner. Cream and blue dye painted the floor nicely. Then over went the flour and meal barrel, and with them a table, upon which all the dishes were piled. With this mixture, they satisfied their appetites, and then pulled two beds down into the mass. They then ripped open the beds, tore up the clothes, and made themselves a nest. This was not all; for when the old gentleman came home and opened the door, out rushed the old she devil between his legs, knocking him "heels over head" into the wood pile and crippling him for the balance of the winter, and so frightening his wife that a miscarriage was the consequence, at the imminent danger of her life. Furthermore, the horse, being alarmed at the hoggish hubbub, started and run off, and not only broke the sleigh, but his own neck. A whole life time of "pork speculation" would not pay all this damage. Even now, while I write, three pigs, such as no fence can stop, have crept into the cellar and destroyed a dozen pounds of my gude wife's butter, just taken from the churn.

"Speedy profits," ha? By my life, the United States have never yet seen those profits from swine. I look upon them as the great curse of the land. If it were not for these miserable brutes, what millions of rails would be saved. "Nearly every one, therefore, has an interest in swine." True, and it is just such an interest I have in the cholera. The one is as great a pestilence as the other. (a)

Cultivation of Grasses at the South.—Are grasses cultivated at the south? My opinion is that there exists a kind of grass warfare throughout all *cottondom*. If more attention were paid to cultivating grass in all the southern states, there is no doubt but it would be better for the whole country, than a sole dependence upon cotton. But how hard it is for a people to make so great a change as that would be to change from cotton, corn, and hogs, to that of grass-growing, sheep-raising, and cattle-grazing. I should like to hear from some of your correspondents, at the south, the reason why grass is not cultivated there more than it is, and why the growing of wool would not be more profitable than the growing of cotton at prices which they are all the time grumbling at.

Letters from California.—I am quite interested in the perusal of these letters. I hope they are from a pen that we can rely upon; for amid the volumes of "stuff" now inpouring from that region, it is difficult to know what part to believe. I don't exactly like the description, however, that he gives of "live oaks" that "vie in height with pines that shoot up 300 feet!" (b) If that is not "shooting with a long bow," then I will acknowledge that about live oaks, there is a sad amount of ignorance on the part of your

REVIEWER.

The above, from our indefatigable correspondent Reviewer, came too late for insertion in the regular course of our last number, and we regret to say that we shall not hear again from him till February or March, as he was compelled, by ill health, last August, to return to his old clement, and make a long sea voyage. Our last letters from him state that he had already much improved, and that he hoped to be at home early in January. Just before

he sailed, we made him a visit, a brief notice of which we have written out for the first number of our next volume. Reviewer then will be unmasked, and our many curious readers will at last know who he really is.

(a) Our friend seems to *bristle* up so fiercely on the subject of *swine*, that we hardly dare approach him in his *hedgehog* mood. The quills of "the fretful *porcupine*" are "airy nothings," gossamer, eider down, in comparison with that from the grey goose he was just now wielding. Our sage Reviewer won't let the gentleman pig take his chance in the pea and clover fields, the apple orchards, nor the magnificent ranges of our western maize, but treats him altogether in two *sty*-lish a manner for our statistics. He introduces him into the cellar, the *lard*-er, the kitchen, the nursery, bedroom, and parlor; and finally installs him in the treble capacity of pony for his master, midwife for his mistress, and driver for their team. Even facts are hard things to reason against, but poetry is still more obdurate, and we must therefore forego an answer to what is really unanswerable. We apprehend our friend had not enjoyed a good rasher of *bacon* in his musty garret for many a day of lent. A *sausage*, or *spare rib*, or even a dish of *souse*, or a bit of *head cheese* with his dry biscuit, would incontinently mollify his *rind* till it was as supple as if it had been lathered with *lard oil*. A tour to Edinburgh, where they carry up their pig nurselings to the seventh story, and feed with the other children, till they reach fifteen or twenty score, or to *swate* Ireland, where they are rated as *household furniture*, would soon place this once be-divelled race, on a fair footing with our ancient friend.

(b) Reviewer further misunderstands our Californian. He says, "the *evergreen*, or *live oaks*, seem to vie in *breadth* with the *height* of the more northerly pines," by which we understand him as saying, that the former are as magnificently broad in their tops as the latter are aspiring.

TRENCHING.—I wish some of our friends, who are in the habit of seeing a mountain in every mole hill, could have seen a job of trenching, just done by Mr. Charles Downing, of Newburgh, at a cost of about \$50 an acre. Although only dug about 15 inches deep, the labor was very great in consequence of the immense quantity of stone below the surface; and yet, this land has been in cultivation many years, but like most of the land under the plow, in the United States, it has only been scratched over, without getting a mellow soil deep enough for any kind of roots to obtain a proper support.

TO CLEAR WILLOWS OF WORMS.—A gentleman, in Stockholm, New Jersey, we are informed, has a fine weeping willow, which, for several years past, has been infested with a great number of worms. His wife, an intelligent lady, anxious to get rid of these pests, sprinkled a weak solution of tobacco over the branches from an upper window of the house; and, much to her gratification, in a short time, the ground was strewed with dead worms, and the tree cleared of them without injury to the leaves.

AGRICULTURAL CHEMISTRY.—No. 16.

THERE is no division of the subject, of which I have been treating, of more practical importance to the agriculturist than that which relates to the composition, management, and application of manures. All substances of whatever nature, which aid in fertilizing a soil are called manures. They are classified by writers under the heads of animal, vegetable, and mineral substances. The first two classes are called organic manures, because they are formed from organized matter, and abound in organic elements, namely, carbon, oxygen, hydrogen, and nitrogen. All mineral manures, including salts, are called inorganic. But without confining myself to any particular mode of classification, I shall proceed to treat of some of the substances most commonly used and are most valuable for fertilizing properties.

Among the great class of fertilizing agents, farmyard manure deserves to rank foremost in importance. But, in order to know how to manage and apply most advantageously the mass of matter, which yearly accumulates in his yard, it is necessary that the farmer should first understand its composition; and before this knowledge can be available, he must be familiar with the several ingredients of which it is composed, and their combinations. To tell an uneducated man that barnyard manure is composed of silicates, carbonates, phosphates, &c., and that one of its most valuable constituents is ammonia, which is of a volatile nature and liable to escape unless fixed by sulphate of lime, would be like talking to him in an unknown tongue. Farmers, whose knowledge is thus limited, are liable to fall into many errors, both in theory and practice.

The following are some of the incorrect opinions which prevail among the body of farmers in regard to the management and application of their farmyard deposits. First, it is supposed that no advantage is gained by sheltering the manure; second, that there is no loss, or only a trifling one, by fermentation and evaporation; third, that liquid manure is of little or no value; fourth, that manure does most good when applied in the full of the moon; fifth, that it is always more advantageous to apply it on the surface, than to plow it under. After briefly examining its composition, we shall see how these opinions accord with the more enlightened teachings of science.

The proportions of the several constituents of farmyard manure, will, of course, vary with the food of the animals, their litter, and the various materials allowed to accumulate in the yard. It should be borne in mind, however, that when animals are well fed, the value of the manure is proportionally increased. Those elementary bodies previously described by me, as entering into the composition of plants, also form the ultimate constituents of farmyard manure; for, no new elementary substance is ever produced by the change which matter undergoes, either in its passage through the vegetable or animal system. The bodies of animals must therefore be composed of the same matter that has previously existed in those vegetables which they have consumed; and, this matter, as I have already shown, may be reduced to sixteen elements. These constituents, or

elementary bodies, move, as it were, in a circle. Plants draw them from the earth and air, and thither they are again returned, after having performed their office, first in the vegetable, and afterwards in the animal constitution. You see, then, that the ultimate constituents of farmyard manure are those identical elements with which you are already familiar. Most of them are found, on analysis, in the form of salts, such as the sulphates, carbonates and phosphates of lime, magnesia, and soda, *most of which are soluble in water*. The knowledge of this fact leads to an important conclusion, as I will endeavor to show. If you place a mixture of common salt and charcoal upon the ground, and pour water upon it, the salt will be dissolved and sink into the earth, while the charcoal, not being soluble, will remain. The case is precisely the same with manure. If it is exposed to drenching rains, the soluble salts, which it contains, and which are valuable fertilizers, will be dissolved, and either sink deep into the earth, where they are not needed, or they will be washed away. The analysis of the liquid thus produced shows it to be rich in these soluble salts, which are thus nearly, if not entirely wasted. Here, then, is a conclusive argument to show the advantage of sheltering manure where it can be done without too great an expense.

But some of the ingredients of farmyard manure, namely, carbon, oxygen, hydrogen, and nitrogen, are of a volatile nature, and commence making their escape as soon as fermentation begins. The most valuable of these ingredients is nitrogen, which escapes in the form of ammonia. The escape of this gas is attended by a very perceptible smell, like that of hartshorn. I have previously spoken of the importance of nitrogen or ammonia to vegetation, and it is unnecessary to add anything further on that topic. This loss may be prevented by mingling with, or spreading over, the heap of manure a plentiful supply either of charcoal, or sulphate of lime (plaster). The former has the power of absorbing and retaining ammonia in its pores; the latter arrests its escape in the following manner. The ammonia, which escapes from fermenting manure, is in the form of a carbonate. When this gas, (carbonate of ammonia,) comes in contact with sulphate of lime, a mutual decomposition takes place. The carbonic acid of the former unites with the lime of the latter, forming carbonate of lime; while the ammonia combines with the sulphuric acid of the plaster, forming sulphate of ammonia, which is not, like the carbonate, a volatile substance. The sulphate of ammonia, therefore, remains fixed until it is dissolved by water and conveyed into the earth to administer to the wants of plants.

The loss, which manure sustains by fermentation and evaporation, is much greater than is commonly supposed. Johnston, in treating on this topic, says: "Recent manure loses weight by lying in the farmyard. The moisture evaporates and volatile matters escape by fermentation. By the time the straw is half rotten, the loss amounts to one fourth of the whole weight, while the bulk is diminished one half. If allowed to lie still longer, the loss increases till, at length, it may approach to one half of the whole, leaving a weight of dung little

greater than that of the fodder and straw which have been consumed." I trust nothing further is necessary to prove that a real and not an imaginary loss is sustained by fermentation, unless proper precautions are used to prevent it.

The liquid excrements of animals, supposed by some to be of little value, are in reality possessed of the most valuable fertilizing properties; instead of considering them worthless, the farmer should regard them as highly concentrated manure, and spare no pains to prevent them from being wasted. However remiss farmers may be, on this point, in a land where a livelihood may be obtained by bad husbandry, the value of such manures is well appreciated in those districts where the art of the husbandman has reached nearest to perfection. I will reserve the subject of the "Application of Manures" for my next letter, and then consider it in connexion with the much-agitated question whether manures ascend or descend.

As regards the idea that the effect of manure can be in any way influenced by the moon, I have only to say it is quite too absurd to be entertained for a moment by any rational being. I should not have noticed it if I had not heard it advocated by individuals who appear perfectly sane on other subjects, though well deserving to be called lunatics on this.

J. MCKINSTRY.

Greenport, N. Y., October 1st, 1849.

HISTORY OF SHORTHORN CATTLE.—No. 1.

Preliminary Observations, Soil, Climate, &c.—

In the year 1848, I made an agricultural tour in England. My object was a general one, embracing all that pertains to agriculture. Finding, however, when there, that more time would be required to accomplish this than my limited stay afforded me, I confined my attention mainly to the agricultural machinery and implements, and the animals of England and Scotland. I was enabled to embrace, in this pursuit, the general nature of soils as connected with agricultural implements and machinery in point of adaptation; and their character in themselves as connected in climate, geology, and geography, with domestic animals generally, and with cattle specially. As incident to this last branch of my inquiries, I devoted much time to the history of the shorthorns. The editor of the *Agriculturist* has asked of me a series of short papers on the history of this race of cattle. In complying with this request, I deem it proper to give a short description, geological, climatic, and geographical of the region where the shorthorns originated.

This region is the valley of the river Tees, which embraces the south part of the county of Durham and much of the North Riding of Yorkshire. The river rises in the elevated tract of country formed by parts of Cumberland, Westmoreland, Durham, and Yorkshire. Issuing from the mountainous region of its origin, the Tees flows eastward, dividing Durham from the North Riding of Yorkshire, and enters the German Ocean by a broad mouth, between the seaports of Redcar on the south and Hartlepool on the north. The rock formation of the high country where the Tees rises is of mountain limestone. Elevated far above the vales below whose streams flow from it, this region has diffused over all the valleys and plains from it to the

ocean, an abundance of lime. As we descend from the mountains, the next formation is coal; then succeeds magnesian limestone and millstone grit; next red sandstone; then lias, with clay; and finally alluvial along the streams and near the ocean.

In the far west of this district, in the country about, and connected with, the heads of the Tees, the valleys and hill sides on the mountainous limestone give a grass land of great value, letting as high as \$15, to \$20 per acre, yearly, for ordinary farming, and with no near markets. The valleys are of a very rich soil, and here are fed cattle and sheep; the hill sides and tops are less rich in soil, but have a very sweet herbage; and here the dairies are found, and excellent cheese, rich and abundant, is produced. The mountain-limestone land is wholly in pasture. Its inhabitants derive their bread from the region below, and furnish beasts, sheep, cheese, butter, bacon, and lard in exchange.

On the magnesian limestone and millstone grit and coal formations, there exist a mixed cultivation of permanent grass lands, and a four-course system of farming, namely, turnips first year, barley the second, grass seeds, (as clover, rye grass, &c.,) third, and wheat, fourth. On this formation, the grass lands prevail, and grazing and the production of cheese and butter largely occupy its inhabitants.

On the red sandstone, the soil is a sandy and gravelly loam; and its district is the best cultivated portion of all the valley of the Tees, and the most productive, and is rich and abundant in grass, grain, and vegetables. Large portions are in permanent pasture, and on its arable lands the four-course system of turnips, barley, grass seeds, and wheat, is pursued.

The clay district is next in the Tees's descent and embraces Cleveland, in Yorkshire, and the Ward of Stockton, in Durham. It lies on the blue lias and is overspread with diluvium; is level, cold, stiff, and tenacious; permits no downward filtering of water, while it presents abundant springs. This region is poor in the main, except along the streams, but with draining becomes highly fertile and productive. This portion of the valley of the Tees once abounded in grass and was famous for its animals, both horses and cattle, and for its dairies. The high price of grain, in the beginning of this century, converted its rich pastures into arable land, and now the whole region presents mainly miserable farming and exhaustion. Its cropping is generally fallow, wheat, oats, or beans, and occasionally clover after wheat.

Intimately connected with the valley of the Tees, is the northern portion of the West Riding of Yorkshire. In geological formation, it is the same as the upper part of the valley of the Tees. Alike in soil, it is so in rotation and production. It is very fertile, with a cultivation excellent and productive, and sustains a large population.

Only on the red sandstones with a sandy and gravelly loam, are good crops of turnips raised, and here all crops succeed admirably.

The interval lands, or bottoms, along the Tees and the other rivers, are very fertile, and grow perfectly everything that the climate will mature, while the annual overflow maintains continuous fertility. These bottoms are mainly in grass.

All this region is possessed of a cold and moist climate; the mountainous portion is too cold and damp to grow grain, and in the lower, its harvests are late and precarious. While the climate is either adverse, or only moderately favorable to the growth of wheat and barley, it yet is well adapted to oats, and especially to grass. Nowhere in the world can there be found richer, better, nor more productive pastures than the valley of the Tees presents. These rich pastures, however, from the severity of the climate, are available only seven months at the most, and commonly not more than six, yearly. For sheep, however, they furnish feeding range, with turnips, during the whole winter. The cattle deeply and badly poach those lands, while the sheep do not.

The climate, as a whole, is bad; cool and moist in summer, and very rainy, wet, and bleak in the winter, with but little fall of snow, and not much continuous freezing weather.

Geographically, the shorthorns were originally confined to the region of the Tees; and of the noted families of the olden day, all were in the valley, except the two herds of Studley Park, near Ripon, in the West Riding of Yorkshire, and of Scampston, in the East Riding. These two herds were owned by persons who were large landholders in the Tees Valley, and are believed to have been derived from the Tees banks. A hundred years ago, and more, the famed herds of shorthorns might be found in the west, at Barningham, and extending thence to Eden, on the ocean, in the north, and to Ormsby, in the south. Within this range, are Layton, Gillington, Stanwick, Manfield, Hornby, Worsall, Stokesley, Acklam, and Ormsby, on the south bank of the Tees; Barnard Castle, Streatham, Denton, Bishop Auckland, Blackwell, Darlington, Oxenfield, Brafferton, Hurworth, Houghton, Burdon, Barmpton, Foxton, The Isle, Sedgely, Aisleby, Norton, Greatham, and Eden Castle, on the north bank, or Durham side, of the Tees. At all these places, there were herds of shorthorns of great excellence; and from all of them, the Messrs. Collings drew the originals of their herds.

The valley of the Tees presents powerfully the truth of that axiom in breeding, recognized by all thorough breeders, that good cattle are coincident with good soil, and are never found, as a race, on a bad one. The character of the valley of the Tees, as regards its soil, is intimately connected with the origin and history of the shorthorns, and is therefore placed as a preface to their rise, progress, perfection, and present wide diffusion.

A. STEVENS.

STRONG AND STEADY MILKERS THE BEST.—Men, in general, are the most proper persons to milk, as they are stronger in the fingers, and are not so liable to become fatigued as women. After the cows have all been milked, they should be gone over again a second time, and every drop of milk taken away; as bad milking is the cause of half the failures in milch cows. One person, too, should always milk, if possible, the same cows, and the quantity given by each should be registered, at least, once every week; and when the amount does not exceed four or five quarts per day, let her be dried.

AMERICAN POMOLOGICAL CONGRESS.

PURSUANT to adjournment, the American Congress of Fruit Growers met at Castle Garden, in this city, on the second of October. A large number of delegates, and others interested in horticulture, from various parts of the Union were present; and, notwithstanding the unfavorable nature of the season for fruits, the tables were well filled with fine specimens from various states.

In the course of the session, the above-named association was consolidated with the North-American Pomological Convention, recently held at Syracuse, by mutual consent, under the name of the "American Pomological Congress." The next session will be held at Cincinnati, Ohio, in the autumn of 1850, at such time and place as may be hereafter determined. It was resolved, also, that, after the next session of the new Congress, their meetings shall take place biennially, and that the session of 1852 shall be held at Philadelphia.

The Chairman of the General Committee being called upon for further business, presented the following list of fruits for rejection, which was adopted:—

APPLES.

Gloucester White, Beachamwell, Pennock, Henry's Weeping Pippin, Red Ingestrie, White Ingestrie, Kirke's Lord Nelson, Marmalade Pippin, Priestley, Rowland's Red Streak, Red or Royal Russet, Woolston's Red Streak, Golden Reinette, Woolston's White Sweet, Hoary Morning, Large Red Sweeting, Red Doctor, Grand Sachem, Cathead, Dodge's Early Red, Grey French Reinette, Muscovia, Irish Peach, Pigeonette, Salina, Caroline, (English,) Fenouillet Rouge.

PEARS.

Croft Castle, Swiss Bergamot, Sousreine, Thompson's, of New Hampshire, Tucker's Seedling, Trubserburdy Dulle, Whitfield, Winter Orange, Wurtzer d'Automne, Tutte, Crassane, Forme des Délices, French Iron, Green Yair, Grise Bonne, Garnstone, Green Catharine, Green Sugar, Gros Blanquet, Green Chisel, Hays, Hawthorne's Seedling, Winter Crassane, Citron de Bohemia, Madotte, Frederic of Prussia, Famenga, Forme Urbaniste, Fantasie Van Mons, Lederbirne, Louise Bonne, Lansac, Madame Vert, Miller's Seedling, Marquise, Marcellus, Navez, Alexander of Russia, Admiral, Aston Town, Autumn Bergamot, D'Amour, Augers, Beurré d'Angleterre, Beurré Sartin, Buerré of Bollwyller, Bon Chrétien d'Espagne, Bon Chrétien of Brussels, Bergamotte Sylvangette, Bergamotte Fortunée, Beauty of Winter, Belmont, Bezi Vaet, Bruno de Bosco, Blanquet à longue queue, Burgo-master, Horticulture, Hastiveau, Ipswich Holland, Jargonelle, (French,) Kramelsbirne, Lincoln, Louis of Bologne, Orange, Orange Tulipe, Phillips, Pitfour, Platt's Bergamot, Passe Long Bras, Prince's Portugal, Pope's Scarlet Major, Cuvellier, Chat Grille, Chair à Dame, Charles Van Mons, (old,) Cassolette, Comte de Frénsol, Copea, Caillat Rosat, Clara, Clapp, Citron de Sieverez, Dearborn of Van Mons, Downton, Duquesne d'été, Doyenné Mons, Deschamp's New Late, Dumbarton, Doyenné Diere, Endicott, Elton, Royal d'hiver, Roussette St. Vincent, Swan's Egg, Saint Bruno, Pitt's Marie Louise, Rquse Lench, Sans Pepins, Surpasse Meuris.

The committee did not deem it expedient further to extend, this year, the list of rejected fruits, and therefore presented none of the smaller kinds.

The same committee also presented a list of fruits deemed worthy of general cultivation, which, after varied discussion, and the striking out of several varieties, was adopted as follows:—

APPLES.

For General Cultivation.—White Seek-no-further, Fameuse, Porter, Hubbardston Nonsuch, Winesap, Lady Apple, Danver's Winter Sweet, Wine Apple, Red Astrachan, Vandervere, Bullock's Pippin, Swaar, Yellow Harvest,* Large Yellow Bough,* American Summer Pearmain,* Summer Rose,* Early Strawberry,* Gravenstein, Fall Pippin,* Rhode-Island Greening,* Baldwin,* Roxbury Russet.*

For Particular Localities.—Yellow Bellefleur,* Esopus Spitzenburg,* Newtown Pippin.*

PEARS.

For General Cultivation.—Rostiezer, Fondante d'Automne, Fulton, Andrews, Buffum, Urbaniste, Vicar of Wakefield, Louise Bonne de Jersey, Uvedale's St. Germain, Madeleine,* Dearborn's Seedling,* Bloodgood,* Tyson, Golden Beurré, of Bilboa,* Bartlett,* Williams's Bon Chrétien, or Bartlett,* Seckel,* Flemish Beauty,* Buerré Bosc,* Winter Nelis,* Buerré d'Arenburg.*

For Particular Localities.—White Doyenné,* Grey Doyenné.*

PEACHES.

For General Cultivation.—Grosse Mignonne,* George IV.,* Early York, (serrated,)* Large Early York,* Morris White,* Oldmixon Freestone,* Coolidge's Favorite,* Bergen's Yellow,* Crawford's Late.*

For Particular Localities.—Heath Cling.*

PLUMS.

For General Cultivation.—Jefferson,* Green Gage,* Washington,* Purple Favorite,* Bleecker's Gage,* Coe's Golden Drop,* Frost Gage,* Purple Gage.*

For Particular Localities.—Imperial Gage.*

CHERRIES.

Belle Magnifique, May Duke,* Black Tartarian,* Black Eagle,* Bigareau,* Knight's Early Black,* Downer's Late,* Elton,* Downton.*

GRAPES.

Under Glass.—Black Hamburg, Black Prince, Black Frontignac, Grizzly Frontignac, White Frontignac, White Muscat, of Alexandria, Chasselas de Fontainebleau.

NATIVE GRAPES.

Open Culture.—Isabella, Catawba.

NECTARINES.

Elruge, Early Violet, Downton.

RASPBERRIES.

Red Antwerp, Yellow Antwerp, Franconia, Fastoff.

STRAWBERRIES.

Large Early Scarlet, Hovey's Seedling, Boston Pine.

APRICOTS.

Large Early, Breda, Moorpark.

CURRENTS.

Red Dutch, White Dutch, White Grape, May's Victoria, Black Naples.

GOOSEBERRIES.

Houghton's Seedling, Woodward's Whitesmith, Crown Bob, Red Champagne, Early Sulphur, Laurel, Warrington, Green Gage, Green Walnut.

The committee also presented the following list of new varieties, which give promise of being worthy to be added to the list for general cultivation:—

PEARS.

Duchess of Orleans, Brandywine, Chancellor, Doyenné d'été, Buerré d'Anjou, Manning's Elizabeth, Brande's St. Germain, Pratt, Ott, Striped Madeleine, Ananas d'été, Jalousie de Vendée, Van Assene, Doyenné Boussock.

PLUMS.

McLaughlin, Rivers' Favorite, St. Martin's Quetsche.

STRAWBERRIES.

Burr's New Pine, Jenney's Seedling.

RASPBERRY.

Knevett's Giant.

GRAPE.

Open Culture.—Diana.

* Those names having this mark * after them, were adopted by the Convention of October, 1848.

SALE OF STOCK AT THE NEW-YORK STATE FAIR.

WE understand large purchases of almost every description of improved stock, were made at the late state show. We are glad to notice this feature in the annual agricultural gatherings, and we anticipate a large benefit to our stock raisers, if the practice is followed up and augmented. Large numbers of choice animals are thus brought together, where their comparative, as well as absolute merits, are easily determined. The seller and buyer would probably have come even without this object in view; and the animals, by a liberal provision of the railroads, are brought to and from the fair without charge for transportation, which is an essential advantage, mutually shared by both parties. We presume over \$20,000 worth of stock was sold on the ground.

But there is one feature in the sales, selling at auction on the show ground, to which we decidedly object, and against which we strenuously urge the action of the society. The effect of this is, to divide the attention of visitors from other objects, disappoint the persons offering, and generally disgust all parties. Let as many private sales be effected as may be; but if people are bold enough, (fool hardy, we should rather say,) to offer either good or indifferent animals at auction, after all the experience hitherto had, at our annual shows, let them take other grounds than are occupied by the state society, and other time than that appropriated for its meeting.

FLAVOR OF NEW-ENGLAND PEACHES.—The flavor of New-England peaches, this year, is decidedly superior to that of those grown further south. Why? Will some member of the Massachusetts Horticultural Society give us an opinion on this subject?

Ladies' Department.

CHAMBER BIRDS.—No. 1.

Canaries.—These birds, from their beautiful plumage, elegant shape, singular capacity, and attractive familiarity, as well as the charms of their melodious song, have always been agreeable to the fancier. Besides, an admirable opportunity is presented of observing the difference of character and temperament which exist in these as in others of the species. Some we find melancholy, others cheerful; some angry, others peaceful; some intelligent, others dull; some industrious, others idle; some greedy, others frugal. But they have chiefly made themselves beloved by their animated, powerful, and varied song, which lasts almost throughout the whole year, and with some even during the time of moulting.

These birds are also distinguished by their correctness of ear, the remarkable skill they possess of imitating all tones, and their excellent memory. Not only do they imitate the notes of other birds, which they greatly improve by mixing them with their own, but they will even learn to utter short words with some degree of correctness.

These birds, which are now kept and reared throughout the whole of Europe, and even in Russia and Siberia, as well as in various parts of North and South America, in an unadulterated state, are natives of the Canary Islands, where they breed in pleasant valleys, and on the delightful banks of small rills, or streams. They were known in Europe as long ago as the beginning of the sixteenth century, as we are told, concerning their arrival, that, "A ship, which, in addition to other merchandize, had a multitude of Canaries on board, that were consigned to Leghorn, was wrecked on the coast of Italy, and the birds, thereby obtaining their liberty, flew to the nearest land." This happened to be Elba, where they found so propitious a climate, that they multiplied, without the intervention of man, and probably would have naturalized themselves, had not the wish to possess them been so great as to occasion them to be hunted after until they were entirely extirpated. In Italy, therefore, we find the first tame Canaries, where they are still raised in great numbers. At first, their rearing in Europe was attended with considerable difficulty, partly because the mode of treating these delicate strangers was not sufficiently understood, but principally because males, chiefly, and not females, were introduced. In their wild and undomesticated state, their song is unvaried, as with most other birds, less melodious, of fewer notes, and uttered at longer intervals than with us.

The original grey color of this bird, which merges into green beneath, has, by means of domestication, climate, and intermixture with other birds, become so multifarious, that Canaries may now be met with of almost every hue; but grey, yellow, white, blackish and reddish-brown, are the prevailing

colors, which are individually seen in every degree of shade, or combination, and thus present innumerable differences. Those which are of a blackish-grey, or greyish-brown, above, with greenish-yellow beneath, like a greenfinch, are the most common, generally the strongest, and approach the most closely to the original color of their primogenitors. The yellow and white ones have usually red eyes, but are more delicate. The chestnut-colored are the most rare, and in strength and length of life are intermediate. The colors of most Canaries consist of a mixture of these, and that bird is the most prized the more regularly it exhibits the combination of these various shades. That which is most generally admired, at present, is one with yellow, or white, upon the body, and of a dun-yellow color on the wings, head, and tail. Next in degree of beauty, is that which is of a golden yellow, with a



CANARIES AND NEST.—FIG. 88.

black, blue, or blackish-grey head, and similar wings and tail. There are also blackish or grey ones, with yellow heads, or with a ring about the neck, white, with brown and black markings, ashy-grey, almost black, with a yellow breast, and white head and tail, all of which have a prominent value. Others, which are irregularly marked, and are variegated, or mottled, are less esteemed.

The Canary bird, fig. 88, is five inches in length, of which the tail comprises two inches and a quarter; the beak is five lines long, stout, sharply pointed, and whitish; the legs are flesh-colored, and eight lines high. The female is scarcely to be distinguished from the male, but the latter has generally deeper and brighter colors; the head is rather thicker; the body, in general, more slender throughout; and the temples and the space around the eyes, are always of a brighter yellow than the rest of the body.—*Americanized from the German.*

FOREIGN AGRICULTURAL NEWS.

By the steamer Niagara, we are in receipt of our foreign journals to 5th October.

MARKETS.—Scarce any alteration in the American staple products since our last, and sales only moderate.

Money as plenty as ever, and business on the whole rather dull.

The *Crops*, in general, were very good throughout Europe. There are some indications of the potato rot, especially in Ireland and Germany. But be this the case or not, we must look forward for rather low prices for our produce the coming year, cotton alone being an exception.

The Potato Disease in Germany.—The potato disease has again made its appearance, with more or less intensity, throughout this country, the loss of the crop being estimated to vary from two thirds to one half; but the quantity planted is so great, and other agricultural produce so abundant, that no alarm seems to be felt about it. The prices are lower than last year, when they were not half what they were in 1847.

Mortality among Cattle at Malta.—Accounts from this island announce the breaking out of a disease amongst cattle, which has proved fatal to a large number of bullocks, and considerably enhanced the price of fresh meat in the market.

Shrubs and Flowers for Cemeteries.—Yews, Cupressus lambertiana, Cupressus funebris, and white thorn; primroses, violets, Anaranthus caudatus, Woodruff, pansies, xeranthemums, and thyme of different kinds. The French use Guaphalium arenarium, and similar everlasting. — *Gardeners' Chronicle.*

Cuttings.—No cuttings ought to have the leaves left upon them below the level of the ground. Leaves cause roots to appear, or at least to assist much in the operation; therefore, all cuttings are the better for having leaves upon them. But it is necessary to take care that the leaves do not destroy the cuttings instead of feeding them, as they are very apt to do, if permitted to perspire freely. Hence the use of bell glasses, and other similar contrivances. — *Ibid.*

Proposed Plan of Converting the London Night Soil into Manure.—A letter has recently been addressed to the "Chairman of the Board of Guardians of Poor-Law Unions," of London, for the more effectual cleansing and draining that metropolis, without poisoning the Thames, by keeping out of the sewers all the fecal matter, and converting 500,000 tons of the latter into 1,500,000 tons of manure, by mixing it with one million tons of Irish-peat charcoal, at a cost of £2,500,000 for the use of it, as an absorber, disinfectant, and deodorizer, besides other expenses, £1,320,387; total, £3,820,387; profit, £3,820,387, being nearly 100 per cent., or rather more than most would consider prudent to pay for Irish charcoal in the present state of agricultural distress.

Sex of Eggs.—It is stated by a correspondent in the London Agricultural Gazette, that it is already well known to every housewife in the north of Scotland, and acted upon by them with unerring success, that, before they set the clucking hens, the eggs to be placed under them for incubation are carefully examined in the following manner. The eggs are, one by one, poised in the fingers of the left hand, with the broad end uppermost, and in that position held close to the light of a candle, or before a bright sun; the little finger of the right hand is then placed behind the egg, near the top, faintly to shade the light. When thus placed, and the egg turned gently round, (as a top would spin,) a hollow, or vacuum, about half an inch in diameter, will be distinctly seen, inside the egg. Now, if this hollow be exactly on the top, the egg will produce a cock; if on the side, it will produce a hen. If the egg has no such vacuum, or hollow, neither on the top nor side, (as is the case with all hens' eggs where no cock is kept to fecundate, or impregnate,

them,) no one in the secret would place any such under the hen, for incubation nor in the hope of its hatching.

Gutta-Percha Water Pipes.—A series of experiments has just been concluded at the Birmingham Water Works, England, relative to the strength of gutta-percha tubing, with a view to its applicability for the conveyance of water. The experiments were made upon tubes of three quarters of an inch in diameter, and one eighth thick, of gutta percha. These were attached to the iron main, and subjected for two months to a pressure of 200 feet head of water, without being in the slightest degree deteriorated. In order to ascertain, if possible, the maximum strength of the tubes, they were connected with the water company's hydraulic proving pump, the regular load of which is 250 lbs. on the square inch. At this point, they were unaffected, and the pump was worked up to 337 lbs., but, to the astonishment of every one, the tubes still remained perfect. It was then proposed to work the pump up to 500, but it was found that the lever of the valve would bear no more weight. The utmost power of the hydraulic pump could not burst the tubes. The gutta percha being slightly elastic, allowed the tubes to become a little expanded by the extraordinary pressure which was applied, but on its withdrawal, they resumed their former size. — *Birmingham Gazette.*

Best Food for Fowls and Pigeons.—Reaumur's experiments on food of poultry are well known. Fowls and pigeons are differently formed in the crop; the one, therefore, requires to be fed chiefly on grain and green food; the flesh of the other, too heating as a general diet, feeds on pulse. The most simple answer is, barley for fowls, and peas and beans for pigeons. But fowls require more variety, as pointed out in former numbers of this journal, and many little delicacies, occasionally oats or buckwheat mixed with the barley; also, in moulting time, a portion of wheat, malt, and hemp seed. They should generally be fed three times a day, before sunset; the mid-day meal, sometimes, may be boiled potatoes, mashed up with a little dry barley meal, or rice, not overdone and boiled dry, to be given when cold, never hot. An onion, chopped fine and mixed with the above, is said to be good, or green chives. Two cocks, with eight hens each, will consume in this way, from a peck to a peck and a half of barley per week. A pigeon will consume from a pint to a quart per week; much depends upon town or country keep. — *Agricultural Gazette.*

Important Discovery in Ventilation.—Dr. Chowne has enrolled a patent for improvements in ventilating rooms and apartments, of the perfect efficacy of which, we believe, there cannot be a doubt, and on a principle at once most simple and unexpected. Without going into details, at present, we may state that the improvements are based upon an action in the syphon, which had not previously attracted the notice of any experimenter, namely, that, if fixed with legs of unequal length, the air rushes into the shorter leg, and circulates up, and discharges itself from the longer leg. It is easy to see how readily this can be applied to any chamber, in order to purify its atmosphere. Let the orifice of the shorter leg be disposed where it can receive the current, and lead it into the chimney, (in mines, into the shaft,) so as to convert that chimney or shaft into the longer leg, and you have at once the circulation complete. A similar air syphon can be employed in ships; and the lower holds, where disease is generated in the close berths of the crowded seamen, be rendered as fresh as the upper decks. The curiosity of this discovery is, that air in a syphon reverses the action of water, or other liquid, which enters and descends, or moves down in the longer leg, and rises up in the shorter leg. — *London Literary Gazette.*

Editors' Table.

RECEIPTS OF THE N. Y. STATE AGRICULTURAL FAIR.—The Secretary, B. P. Johnson, Esq., informs us, that the receipts at Syracuse, in September last, were about \$8,100. This shows a great increase of interest on the part of the farmers and public generally of the state, in the advancement of an improved agriculture.

SUGAR.—It is estimated that the exports of sugar from Cuba, for 1850, if nothing occurs to injure the crop between this and the early part of December, will be equal to 1,500,000 boxes, worth, at present rates, (molasses included,) about \$33,000,000. The largest crop ever exported, hitherto, was in 1847, amounting to near 1,300,000 boxes; since which date, the cultivation has been increased, and the present season has been uncommonly favorable.

CONVENTION OF DOMESTIC-FOWL BREEDERS.—Dr. J. C. Bennett, of Plymouth, Mass., will exhibit, at the Quincy Market, Boston, on the 15th of the present month, from 10 o'clock, A.M. to 3 o'clock, P.M., varieties of the following fowls:—Golden Pheasants, Shanghaes, Cochins, Great Malays, Great Javas, Wild Indias, Plymouth Rocks, Plymouth Games, Fawn-colored Dorkings, English Ravens, and Spanish Mufflers," for the inspection of all poultry fanciers and fowl breeders who may choose to attend.

A NEW FODDER FOR SHEEP.—It is not generally known, says one of our contemporaries, that okra, (gumbo,) is a great food for sheep, and perhaps, also, of other brute tribes. They eat it in preference to anything else. It is said to yield, too, more forage to the acre than almost any other plant.

BEEF-PACKING IN OHIO.—It is estimated that existing contracts for beef, in and about Cleveland, Ohio, will require the slaughter of 20,000 head of cattle during the fall and winter.

THE AMERICAN FRUIT CULTURIST, containing Directions for the Propagation and Culture of Fruit Trees, in the Nursery, Orchard, and Garden, with Descriptions of the Principal American and Foreign Varieties, cultivated in the United States. By John J. Thomas. Illustrated with 300 accurate figures. Auburn: Derby, Miller & Co. This is a greatly-enlarged edition of a former work by Mr. Thomas, which has had deservedly an extensive sale. The author is a practical nurseryman, and writes from his own personal knowledge. We can consequently recommend this book as one of the safest guides to follow, which has yet been published in our country. For sale by C. M. Saxton, 121 Fulton street, New York.

THE AMERICAN BIRD-KEEPER'S MANUAL; or Directions for the Proper Management of American and Foreign Singing Birds. By James Mann. Boston: Little and Brown, pp. 166, 18mo. This is a cheap little work, replete with practical instructions for the breeding of Canary birds, and the proper treatment of their young, together with some remarks on the diseases to which birds are liable, prevention, remedies, &c. It is for sale by C. M. Saxton, 121 Fulton street, New York.

IMPORTATION OF SAXONY SHEEP.—By the barque Wieland, that arrived here the past month, Mr. John A. Taintor, of Hartford, Connecticut, received seven Saxon ewes. These were selected for him in Germany, by that eminent judge and breeder, the Baron de Spreck. They are large and fine in their forms, and heavily woolled, with the choicest quality of fleece that one can imagine. Till we saw these superb animals, and a similar importation by the same gentleman, last year, we had no idea of the great superiority of the best bred Saxon sheep over those of our own country.

FINE WIRE CLOTH.—The wire cloth exhibited at the last fair of the American Institute, by Messrs. W. Stephens & Son, of Belleville, New Jersey, is said to be quite equal to the foreign article, heretofore used in making paper. Each cloth contains from 100 to 300 square feet, and the texture is so fine that each square inch contains from 4,000 to 5,000 meshes. They are used for straining the pulpy mass from which paper is made.

CUBA TOBACCO SEED.—We are informed that a gentleman in Tennessee obtained some tobacco seed from the island of Cuba, from which he produced plants with leaves more than double those of the usual size. The crop proved a very profitable one, and was sold for wrappers to American cigars.

RULES FOR KNOWING GENUINE GUANO.—Like other things, guanos differ in quality; but there is a general character running through them all. If genuine, they invariably contain feathers and shells; water, of course; organic matter, always; chrystallized gypsum, never; carbonate of lime, commonly; phosphate of lime, always; superphosphate, never; and nitrogen, invariably.—*Herapath.*

NANKIN CLOTH.—Most, if not all, the Nankin now sold in our markets, is of American fabric. It is manufactured from Nankin cotton, grown in Georgia, and is spun and woven at the Lonsdale Mills, in Rhode Island. The culture of Nankin cotton was introduced to this country by the late John Forsyth, formerly minister to Spain, afterwards Secretary of State, under the administration of Jackson and Van Buren. It is now grown in large quantities by many of the planters of Georgia, and commands a ready sale at high prices. Mr. Forsyth procured the seed from the American consul, at Canton, and at the outset, the project of growing it in this country was deemed wild and chimerical. It is of a darker hue than the China article, but not so handsome.

POT HERBS.—It is stated in the "Alabama Planter," that the tops of sweet potatoes make the best of all greens. They are represented to be succulent, tender, and wholesome.

TO TRY OUT BEESWAX.—Put the comb into a colander, or a tin pan with a bottom punched full of holes, and place it in a warm oven over another pan partly filled with water. The wax will melt and drop into the water below, perfectly clear, whence it may be removed when cool.—*Exchange Paper.*

HAMS.—We were struck with the freshness and firmness of some hams from Gwinnett, from one to four years old. The owner refused to divulge his secret—but as we have fortunately become possessed of it, we here give it, *pro bono publico*. Procure some good, clean hickory ashes; have them perfectly dry; draw your meat from the pickle on a dry day; sprinkle the ashes over the meat pretty thick, being careful not to knock off more salt than what must fall off; then hang up your meat as high as possible; smoke it with cool smoke, made by hickory-wood; be sure to take it down before the skipper fly makes his appearance, being generally in this climate, the first of March; pack it away, on a dry day, in casks; 1st, a layer of hams in perfectly dry hickory ashes—2d, a course of corn cobs, &c.; and 3d, cover your cask snug and tight.—*Alabama Planter.*

DIVISION OF HOURS IN OLDEN TIME.—The following quaint division of the forenoon in Elizabeth's reign, may perhaps provoke a smile:—"We wake at six, and look about us, that's eye hour; at seven we should pray, that's knee hour; at eight walk, that's leg hour; at nine gather flowers and pluck a rose, that's nose hour; at ten we drink, that's mouth hour; at eleven lay about us for victuals, that's hand hour; at twelve go to dinner, that's belly hour."—*Middleton and Rowley's Changeling.*

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, OCTOBER 20, 1849.

ASHES, Pots,.....per 100 lbs.	\$7 00	to	\$7 12
Pearls,.....do.	6 00	"	6 12
BALE ROPE,.....lb.	9	"	11
BARK, Quercitron,.....ton,	23 00	"	30 00
BEANS, White,.....bush.	75	"	1 25
BEESWAX, Am. Yellow,.....lb.	19	"	22
BOLT ROPE,.....do.	10	"	12
BONES, ground,.....bush.	40	"	55
BRISTLES, American,.....lb.	25	"	65
BUTTER, Table,.....do.	15	"	25
Shipping,.....do.	9	"	15
CANDLES, Mould, Tallow,.....do.	10	"	13
Sperm,.....do.	25	"	40
Stearic,.....do.	20	"	25
CHEESE,.....do.	5	"	10
COAL, Anthracite,.....2,000 lbs.	5 00	"	6 00
CORDAGE, American,.....lb.	11	"	13
COTTON,.....do.	8	"	12
COTTON BAGGING, Amer. hemp,.....yard,	15	"	16
FEATHERS,.....lb.	30	"	40
FLAX, American,.....do.	8	"	9
FLOUR, Northern, Southern and West'n bl.	4 25	"	5 38
Fancy,.....do.	5 60	"	6 00
Richmond City Mills,.....do.	6 60	"	6 75
Buckwheat,.....do.	—	"	—
Rye,.....do.	2 81	"	3 00
GRAIN—Wheat, Western,.....bush.	1 05	"	1 30
Red and Mixed,.....do.	80	"	1 15
Rye,.....do.	58	"	60
Corn, Northern,.....do.	64	"	66
Southern,.....do.	60	"	65
Barley,.....do.	64	"	60
Oats,.....do.	34	"	42
GUANO, Peruvian,.....2,000 lbs.	45 00	"	50 00
" Patagonian,.....do.	30 00	"	35 00
HAY, in bales,.....do.	45	"	55
HEMP, Russia, clean,.....ton.	195 00	"	200 00
American, water-rotted,.....do.	160 00	"	220 00
American, dew-rotted,.....do.	140 00	"	175 00
HIDES, Dry Southern,.....do.	8	"	9
HOPS,.....lb.	6	"	15
HORNS,.....100.	2 00	"	10 00
LEAD, pig,.....do.	4 30	"	4 40
Pipes for Pumps, &c.....lb.	5	"	7
MEAL, Corn,.....bbl.	3 12	"	3 38
Corn,.....hhd.	15 00	"	15 50
MOLASSES, New Orleans,.....gal.	22	"	28
MUSTARD, American,.....lb.	16	"	31
NAVAL STORES—Tar,.....bbl.	1 81	"	2 00
Pitch,.....do.	1 25	"	1 75
Rosin,.....do.	1 25	"	1 40
Turpentine,.....do.	2 50	"	2 75
Spirits Turpentine, Southern,.....gal.	32	"	35
OIL, Linseed, American,.....do.	70	"	75
Caster,.....do.	1 50	"	1 70
Lard,.....do.	60	"	70
OIL CAKE,.....100 lbs.	1 25	"	1 50
PEAS, Field,.....bush.	75	"	1 75
Black-eyed,.....2 do.	1 50	"	1 75
PLASTER OF PARIS,.....ton.	2 00	"	2 75
Ground, in bbls,.....of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,.....bbl.	9 00	"	12 00
Prime,.....do.	6 00	"	9 00
Smoked,.....lb.	6	"	12
Round, in pickle,.....do.	4	"	6
Pork, Mess,.....bbl.	10 00	"	13 00
Prime,.....do.	7 00	"	10 50
Lard,.....lb.	6	"	7
Bacon sides, Smoked,.....do.	3	"	4 1/2
In pickle,.....do.	3	"	4
Hams, Smoked,.....do.	5	"	9
Pickled,.....do.	4	"	7
Shoulders, Smoked,.....do.	4	"	6
Pickled,.....do.	3	"	4
RICE,.....100 lbs.	3 00	"	3 75
SALT,.....sack.	1 17	"	1 30
Common,.....bush.	20	"	25
SEEDS—Clover,.....lb.	6 1/2	"	7 1/2
Timothy,.....bush.	2 00	"	3 50
Flax, clean,.....do.	1 50	"	1 60
rough,.....do.	1 40	"	1 50
SODA, Ash, cont'g 80 per cent. soda,.....lb.	3	"	—
Sulphate Soda, ground,.....do.	1	"	—
SUGAR, New Orleans,.....do.	4	"	6
SUMAC, American,.....ton.	35 00	"	37 00
TALLOW,.....lb.	7	"	8
TOBACCO,.....do.	3	"	9
WHISKEY, American,.....gal.	26	"	27
WOOLS, Saxony,.....lb.	40	"	60
Merino,.....do.	85	"	40
Grade Merino,.....do.	80	"	35
Common,.....do.	20	"	30

NEW-YORK CATTLE MARKET.

At Market.—1,690 Beef Cattle, (800 southern, the remainder from this state and east), 65 Cows and Calves, and 6,500 Sheep and Lambs.

Beef Cattle.—The market for Beeves, is active, and firm, and fairly stocked, the sales varying from \$5.50 to \$7.50. The number on hand, unsold, is estimated at 200. A lot of 40 head has lately been shipped to Bermuda.

Cows and Calves.—The prices of these run from \$22.50 to \$45. Left over, 15.

Sheep and Lambs.—These are plenty, and rather on the increase, the Sheep selling from \$1.25 to \$4.50 each, and the Lambs from \$1 to \$3.25. The number left unsold, about 500.

REMARKS.—The changes in the market since our last are very trifling. Business has been good, and large transactions in produce are daily taking place. The accounts of the Cotton crop are still gloomy. Rice is a good yield, Sugar fair.

TO CORRESPONDENTS.—Communications have been received from C. T. Jackson, John Delafeld, Robert Willets, S B. Parsons, J. B. Davis, and Benjamin Burroughs.

Temperature for Bees in Winter.—J. R. S. of Stockholm, N. J. —By various experiments of heat and cold, afforded to bees, there is said to be no such thing as freezing them to death. By keeping them uniformly cool, not half the number will die during winter, that there would if the weather were variable, warm, and mild, when the bees will venture too far from their hives.

Prepared Guano.—L., of Hartford, Ct.—Our advice is to buy no other but the best Peruvian, in an unadulterated state. See remarks at page 79, of our seventh volume.

Alkaline Manure.—R. W., of Newtown, L. I.—The cheapest substance we could recommend to you, as a manure containing potash, soda, magnesia, and lime, is that known by the name of *bitters*, or the refuse of salt works. It can be obtained at Syracuse, and delivered in New York, for less than a dollar per barrel. A similar compost may be formed by the admixture of unleached wood ashes, common salt, and the magnesian, or stone lime, from North River.

ACKNOWLEDGEMENTS.—Annual Address delivered before the Fairfield-County Agricultural Society, at Bridgeport, Ct., in October, by P. T. Barnum, Esq., President of the Society.

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AND

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IS PUBLISHED ON THE FIRST OF EVERY MONTH BY

C. M. SAXTON, 121 FULTON STREET, NEW YORK,

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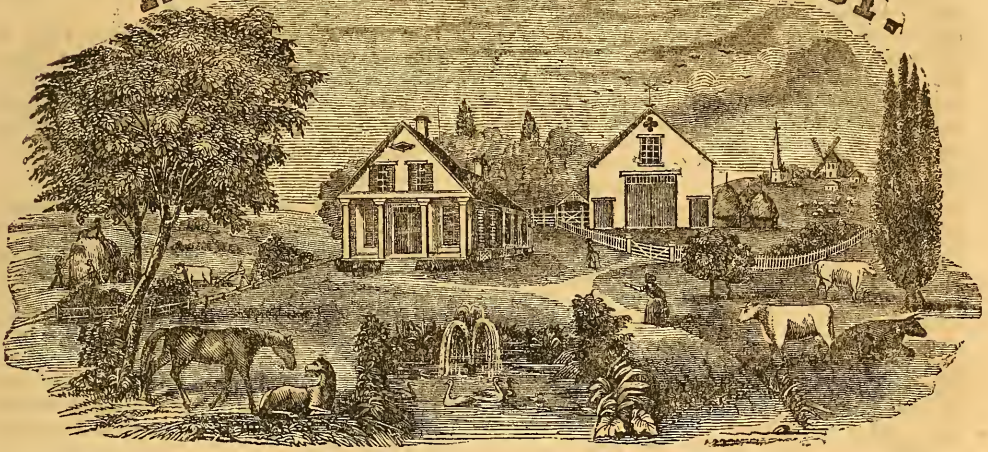
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AMERICAN AGRICULTURIST.



Agriculture is the most healthy, the most useful, and the most noble employment of man.—WASHINGTON.

VOL. VIII.

NEW YORK, DECEMBER, 1849.

NO. XII.

MESSRS. ALLEN, EDITORS.

C. M. SAXTON, Publisher, 121 Fulton Street

TO OUR READERS.

THIS number closes the eighth volume of the *Agriculturist*, and in conducting the work thus far, we have done all in our power to elevate the condition of the tillers of the soil. It is the most ardent wish of our hearts, that the farmers should take the first stand in society, not only in wealth, but in intelligence. As a class, they are the basis of society, and to them all others look for their support. Why, then, should they not also look to them for their political rulers, their guides and conductors in mental acquirements? This ought always to be the case, particularly in a republican government; and depend upon it, when this is not the case, you alone are blameable, and the body politic is in a false position. Awake, then, to your rights, and seek a more enlarged and liberal education; and above all, pay more attention to the reading of those publications which are conducted especially for the improvement of your minds and estates.

The first number of the ninth volume of the *Agriculturist* will be issued promptly on the 1st of January next, and we trust that all those who have taken the preceding volumes, will continue their subscriptions. We shall endeavor to make it at least equal, if not superior, to its predecessors; and in order to do this, we ask the farmers themselves to contribute often to its pages. We do not require fine writing, for this is not expected in a publication like ours; what we desire, is, practical matter, every-day experience, and any new facts which may come to light from time to time; and however plain the language in which such things are recorded, be assured they will be quite welcome, and will be put in proper shape for publication. Now, because you are plain, hard-working farmers, don't hesitate to address us freely and often; you are just the men we wish to correspond with.

A new feature in our journal, is, that we have

engaged a highly-intelligent correspondent, Mr. Solon Robinson, an experienced, practical farmer, to travel in various parts of the United States, for the purpose of obtaining the best agricultural information in the country, and communicate it to the public through our pages. Such an agency involves us in large additional expenses; but these, and still more, we are ready at all times to incur, provided the farmers and planters will properly appreciate our efforts, and give us that support in return which we think we have a right fairly to ask.

Now let every man of you take hold and do his best to increase the circulation of the *Agriculturist*. What is a dollar a year, even for the poorest man in the country, to pay for so useful a publication? Many of you are benefitted ten, and sometimes a hundred dollars or more, by its publication. Should not this induce you to work for it, then, with all your might?

Please to remit your subscriptions to the publisher, C. M. Saxton, 121 Fulton street, and do this, whenever convenient, under cover of the postmaster of your place, and thus save the postage—the law allows this. Where several thousand letters are received annually, postage is quite an item to pay, though only a few cents on each letter.

TO SUBSCRIBERS.

SUBSCRIBERS will please to recollect that the subscriptions for the *Agriculturist* are *payable in advance*. All those, therefore, who wish the work continued, will immediately send in the same to C. M. Saxton, the publisher, 121 Fulton street, New York. No one would ever object to these terms, if he knew the trouble and loss attendant on collecting such small sums.

WORK FOR DECEMBER, NORTH AND WEST.

Settle Your Accounts.—"Short settlements make long friends," and as we wish to see love and good will to all men flourish everywhere, we commence our advice in work for December, with an earnest recommendation to our readers, to make it one of the duties of this month to settle every account with every individual with whom they have had any dealings during the past year. If there is any matter of difference between you and some neighbor, as in the common course of human character there will be, do not go to law about it; don't sue nor be sued for a paltry little sum. It is far better, more neighborly, and far more in accordance with the spirit of Christianity, to submit it to two or three of your friends; and let us tell you, from seven years' experience in taking up costs in a law court, it is far less expensive. Therefore, take the advice of one who has the best wishes for your welfare, and settle all your accounts, or matters of difference with neighbors, or relatives, in December, and then you will be prepared for a merry Christmas and happy-new-year.

Make Your House Warm.—If you have not attended to this advice for November, do not neglect it a day longer. Above all things, make the "old folks' room" comfortable. "Honor thy father and mother," &c., which you can do in no other way more truly than thus administering to their comfort during a cold northern winter.

Remember Your Stock.—Be assured that it takes just as much more feed to keep a cow warm out of doors, as it would of fuel to keep a stove warm in an open room, instead of a tight one. This is poor economy.

Killing Hogs.—This is the month for butchering, and although it is a job of hard, disagreeable labor, farmers generally contrive to make a day of pleasure of it, by inviting some neighbor to come and help, by way of "changing works." This is all right. It promotes harmony and good feeling; *provided*, that old-fashioned accompaniment of butchering day is excluded. As you love peace, banish the old black rum jug—don't scald your throat instead of the hogs. The best way to scald hogs, is, not to heat the water in kettles, as we used to do, over the old kitchen fire, and then carry it out in pails, to the great danger of everybody around. Provide a trough about ten feet long, and wide and deep enough to receive the body of a large hog; fill it half full of cold water; have a dozen stones, weighing ten to twenty pounds each, heated in a convenient fire; take them out with a shovel (it will not injure a barn shovel); put them into one end of the trough, and the water will soon be hot enough; then re-heat the stones for the next hog. Water may be heated in a tub, or barrel, but it is not so convenient as a trough. Try it.

Have Your Oxen Shod.—This is important at the north. They are far more economical than horses, and if well shod, will do as much work in getting up wood, drawing logs to the saw mill, sledding rails, hauling in hay from the water meadow, while it is frozen, and hauling out manure when it is not—and a thousand-and-one winter jobs that every good farmer will attend to this month.

Christmas.—Be sure and make this a day of pleasure and profit. Let it be a feast of fat things.

Have your children and grandchildren home in the old farm house, and thank God for one more return of this day. Let the children enjoy a merry Christmas.

Visit Your Neighbors, and talk over plans for improving your farms, during these long winter evenings. Take a number of the *Agriculturist* in your hand, and show them what a valuable paper he can get for a dollar a year; and then go and get as many subscribers as you possibly can for it.

WORK FOR DECEMBER, SOUTH.

Planting Potatoes.—In Mississippi, and parts adjacent, the best common potatoes that we have ever seen raised, were planted in November and December. Plow the ground deep, not less than ten inches—twenty would be better; open a deep furrow, and fill it with good stable manure, well tramped down; cover it slightly with earth, and lay the tubers ten or twelve inches apart; then cover with a heavy furrow turned up from each side, and smooth off the bed with hoes. Arrange the rows so the water will not stand, and you will have a good crop.

Garden Vegetables, for early spring use, should be attended to this month. Onions, lettuce, cabbage, tomatoes, &c., should be planted in many parts of the south. Of course, we cannot make our directions general for so great a country as the United States.

Put Your Garden in Order, before you sow the seeds. If it is a clayey soil, trench it two feet deep and drain it. Put coarse manure, or rotten chips and trash, in the bottom of the trenches. If your soil is sandy, still trench it, and haul clay, of which put six inches well bedded in the bottom; or, if you cannot get clay, take muck. Mix a rich dressing of fine manure with the soil, and then you are ready to see the spring open, and everything you plant grow flourishingly.

Cotton Picking, &c.—This business is too apt to absorb everything else. But do not forget that it is all-important to your interest to attend to a great many other things this month. You will probably find this the best season for killing hogs, and you should see that they are well fed, and ready to be killed the first cold spell. We never wait for pork to cool before salting. Cut up and salt at once. See that every part is thoroughly rubbed with fine salt. Within a week, overhaul and rub again; in ten days more, repeat the operation. Whenever the meat has completely absorbed six pounds of good rock salt to the hundred weight, and laid about twenty days, it will be found to be cured enough to smoke. This should be done in a cool, well-ventilated room. The best way is to have a fire out doors, and conduct the smoke through a flue; but never build the fire in the same room in which the meat is to be cured.

Take Care of Your Lambs.—This is the best month for sheep to drop their lambs, as far south as Mississippi. The sheep should be looked after, and provided with some better feed than frost-bitten cotton stalks.

Work Important to be Done, upon all the plantations along the Mississippi and bayous, just as soon as the rolling season is over, or cotton out of the fields, is, to repair the levees. Do not forget

the disasters of last winter, and put it off till the floods come upon you. Although repairing fences, cleaning out ditches, clearing up new land, repairing roads and bridges, and getting ready for plowing immediately after your crop is gathered, so as to be in readiness for the next, is very important; yet, the levee is what you must all depend upon, and it therefore must be kept in repair.

Cotton Bagging.—This is the month in which more cotton is bagged than all others. Therefore, it is proper that we call your attention to it. If you could see the condition in which much of the cotton comes to New York, as we see it every day, you would learn why you obtain so low a price. Much of the bagging is no more fit for the use it is put to, than so much brown paper. It is torn off, and the cotton wasted and tumbled about in the mud, until it looks more like a bale of black wool, than a clean, white, merchantable article.

Sugar Hogheads and Molasses Barrels, need improving. They often waste the contents and injure sale, almost as much as the miserable cotton bagging. While you are handling so many of them this month, take notice of the necessity of improvement. For, remember, that every loss from bad packing, eventually comes out of the producer.

Planting Hedges.—This is an important work for the south, and a good month to do it in. The Cherokee rose is probably the best plant that can be used. It grows so readily from cuttings, that there is not the least difficulty in starting a hedge. Cut the vines ten or fifteen inches long; clean off the trash from the proposed line of fence; mark the row; and then take an iron pin and drive it down six or eight inches into the ground, and insert the cutting; and then, with an iron hammer, pound the ground around the cutting till it closes compactly around it. This method will insure the growth of a greater number of cuttings than any other mode of planting with ten times the labor. Another good hedge plant, is the *Yucca gloriosa*. It is known under the term Spanish bayonet, as well as other local names. Like all other hedge plants, it must be kept well trimmed.

Planting Sugar Cane.—Do not let this month pass without making large preparations for planting your next crop of cane. Have you got a first-rate fluke plow? Because we have seen, upon some Louisiana plantations, a most clumsy article used—in fact, nothing but a triangular block—to open the furrows in which to plant the canes. Now, a good double-moldboard iron plow, will pay for itself in one season. Try the subsoil plow. If you are not willing to subsoil the whole ground, try it in the cane rows only, to begin with. You cannot have too deep a tilth to insure a good growth of cane; besides, it assists drainage.

Building Fence.—As this is the month for building a great deal of fence, it is worth your while to inquire for a substitute for your present expensive system. Look in our August number for an account of wire fence.

Set Out Trees this month, either for fruit or shade; and mind and have both roots and branches to them, if you have any desire to see them grow. It is worse than idle to set out trees after the New-Orleans fashion; which is to denude the tree of all the roots and branches, as close as they can be

cut, and then the stumps are stuck in a small hole full of water, and required to grow. To insure the growth of any tree, the hole should be dug broad and deep, and if the natural soil is not good, it must be hauled from a distance and filled in, so as to make a rich, mellow bed for the roots to commence operations upon.

ANALYSIS OF FLORIDA MUCK.

A SAMPLE of muck, obtained from Col. R. W. Williams, of Tallahassee, Florida, out of a pond hole from which the water had evaporated, gave, on analysis, the following results:—

In dry, dark-colored, pieces readily crumbling under the finger, containing a small quantity of undecomposed rootlets scattered throughout, 10,000 parts of the above contained of

Moisture,	675
Vegetable matter,	1,715
Silica and fine white sand,	6,640
Alumina,	775
Carbonate of lime,	93
Magnesia,	53
Saline matters, soluble in water, as common salt and sulphate of lime,	49
Oxides of iron,	none.
	10,000

From the foregoing constitution, it appears that this muck is a fine, white, siliceous sand, darkened by vegetable matter. Of the latter, there is a little above 17 per cent., and the other matters of value in the muck, amount to about two per cent. more; so that, out of the whole, there is but 19 per cent. of useful elements. To heavy clay lands, it might be a useful addition, if carted on the field and then plowed in; even in this case, its only useful addition is the vegetable matter, which is in such a state of fine decomposition as not to afford any ammonia by any further decay.

This muck should not be used as a compost material, as it is too bulky, considering its small value. To light sandy soils it appears little adapted.

THOMAS ANTISELL, M.D.,

Chemist to American Agricultural Association.
New York, Oct. 31st, 1849.

Col. Williams informs us, that he has used the above muck in his cattle pens and yards, with considerable advantage as an absorbent of the droppings from the animals, and also as a foundation for his compost heaps. It derives its value for this purpose, almost exclusively from its vegetable matter and alumina, of which it contains about 25 per cent. The carbonate of lime, although less than one per cent, is likewise valuable; and the magnesia, in small proportions, contributes also to the food of plants.

The saline matters are of decided benefits. The large proportion of fine sand materially detracts from the value of this material, as it is not an absorbent, is of no value as an application for sandy lands, and, in consequence of its extreme fineness, is of no use in effecting a mechanical division in clayey soils.

HINTS ON THE MANAGEMENT OF HORSES.— No. 8.

Mode of Governing the Horse while Riding.—

When you want your horse to move forward, raise his head a little, and touch him gently with your whip; or else, press the calves of your legs against his sides. If he does not move fast enough, press him with more force, and so till the spur just touches him. By this practise, he will, (if he has any spirit,) move upon the least pressure of the leg. Never spur him by a kick; but if it be necessary to spur him briskly, keep your heels close to his sides, and slacken their force as he becomes obedient.

When your horse attempts to be vicious, take each rein separate, one in each hand, and advancing your arms forward, hold him very short. In this case, it is common for the rider to pull him hard, with his arms low. But the horse, by this means, having his head too low, has it more in his power to throw out his heels; whereas, if his head be raised very high, and his nose thrown out a little, which is consequent, he can neither rise before nor behind; because he can give himself neither of these motions without having his head at liberty.

If your horse is headstrong, pull not with one continued pull, but stop, and back him often, just shaking the reins, and making little repeated pulls till he obeys. Horses are so accustomed to bear on the bit when they go forward, that they are discouraged if the rider will not let them do so.

If a horse is loose-necked, he will throw up his head at a continued pull; in which situation the rider, seeing the front of his face, can have no power over him. When your horse does this, drop your hand and give the bridle play, and he will of course drop his head again into its proper place; while it is coming down, make a second gentle pull, and you will find his mouth. With a little practice, this is done almost instantaneously; and this method will stop, in the distance of a few yards, a horse which will run away with those who pull at him with all their might. Almost every one must have observed, that when a horse feels himself pulled with the bridle, even when he is going gently, he often mistakes what was designed to stop him, as direction to bear on the bit and to go faster.

Keep your horse's head high, that he may raise his neck and crest; play a little with the rein, and move the bit in his mouth, that he may not press on it in one constant and continued manner; be not afraid of raising his head too high; he will naturally be too ready to bring it down, and tire your arms with its weight, on the least abatement of his mettle. When you feel him heavy, stop him, and make him go back a few paces; thus you break by degrees his propensity to press on his bridle.

Let your horse carry his head bridling in, provided he carries it high, and his neck arching upwards; but if his head bends downwards, his figure is bad, his sight too near his toes, he leans on the bridle, and you have no command over him. If he goes pressing but lightly on the bridle, he is the more sure-footed, and goes pleasanter, as your wrist only may guide him. If he hangs down his

head, and makes you support the weight of that and his neck with your arms, bearing on his fore legs, he will strike his toes against the ground, and stumble.

If your horse is heavy on the bit, tie him every day, for an hour or two, with his tail to the manger, and his head as high as you can make him lift it, by a rein on each post of the stall, tied to each ring of the snaffle bit.

Horse breakers and grooms have a great propensity to bring a horse's head down, and seem to have no seat without a strong hold by the bridle. They know, indeed, that the head should yield to the reins, and his neck form an arch; but do not take the proper pains to make it an arch upward. A temporary effect of attempting to raise a horse's head, may perhaps be making him push out his nose. They will here tell you, that his head is too high already; whereas, it is not the distance from his nose, but from the top of his head to the ground, which determines the head to be high or low. Besides, although the fault is said to be in the manner of carrying the head, it should rather be said to be in that of the neck; for if the neck were raised, the head would be more in the position of one set on a well-formed neck.

The design, therefore, of lifting up the head is to raise the neck, and thereby bring in the head; for even while the bridle makes the same line from the rider's hand to the bit, the horse's nose may be either drawn in, or thrust out, according as his neck is raised or depressed. Instead of what has been here recommended, we usually see colts broken with their heads cavassoned very low, their necks stiff, and not in the least suppld. When the breaking tackle is left off, and they are mounted for the road, having more food and rest, they frequently plunge, and a second breaking becomes necessary. Then, as few gentlemen can manage their own horses, they are put into the hands of grooms, from whom they learn a variety of bad habits.

If, on the other hand, your horse carries his head, (or rather his nose,) too high, he generally makes some amends by moving his shoulders lightly, and going safely. Attend to the cause of this fault. Some horses have their necks set so low on their shoulders, that they bend first down, then upwards, like a stag's. Some have the upper line of their necks, from their ears to their withers, too short. A head of this sort cannot possibly bend inwards and form an arch, because the vertebræ, (neck bones,) are too short to admit of flexure; for in long and short-necked horses, the number of the vertebræ is the same. In some, the jaw is so thick, that it meets the neck, and the head by this means has not room to bend. On the other hand, some have the under line from the jaw to the breast so short, that the neck cannot rise.

In all these cases, you may gain a little by a nice hand with an easy bit; but no curb, martingale, nor other forcible method, will *teach* a horse to carry his head or neck in a posture which nature has made uneasy to him. By trying to pull in his nose further than he can bear, you will add a bad habit to nature. You could not indeed contrive a

more effectual method to make him continually toss his nose up, and throw his foam over you.

The rule already given to ride a loose-necked horse, will be a proper one for all light-mouthed horses; one caution being added, which is, always to search whether his saddle or girths may not in some way pinch him; and whether the bit may not hurt his lips by being too high in his mouth; because, whenever he frets from either of these causes, his head will not be steady.

It is a common custom to be always pulling at the bridle, as if to set off to advantage either the spirit of the horse or the skill of the rider. Horses, therefore, are taught to hold their heads low, and pull so as to bear up the rider from the saddle, standing in his stirrups, even in the gentlest gallop.

It is not to be wondered that jockies are always pulling at their horses, that they have the spur constantly in their sides, and are at the same time continually checking the rein. By this means, they make them bound, and champ the bit, while their rage has the appearance of spirit. These people ride with their arms spread, and very low on the shoulders of their horses; this method makes them stretch their necks, and gives a better appearance to their forehands; it conceals also a thick jaw, which, if the head were up, would prevent its yielding to the bit; it hides, likewise, the ewe neck, which would otherwise show itself. Indeed, if you have a horse unsteady to the bit, formed with a natural heavy head, or one which carries his nose obstinately in the air, you must find his mouth where you can, and make the best of him.

When a horse starts at anything on one side, most riders turn him out of the road, to make him go up to what he starts at; if he does not get the better of his fear, or readily comply, he generally goes past the object, making with his hinder parts, or croup, a great circle out of the road; whereas, he should learn to keep straight on, without minding objects on either side. If he starts at anything on the left, hold his head high, and keep it straight in the road, pulling it from looking at the thing he starts at, and keeping your right leg hard pressed against his side, towards his flank; he will then go straight along the road. By this method, and by turning his head a little more, he may be forced with his croup close up to what frightened him; for as his head is pulled one way, his croup necessarily turns the other. Always avoid a quarrel with your horse, if you can; if he is apt to start, you will find occasions enough to exercise his obedience when what he starts at lies directly in his way, and you must make him pass; if he is not subject to start, you should not quarrel with him about a trifle.

It must be observed, however, that this rule in going past an object may perhaps be a little irregular in a managed horse, which will always obey the leg; but even such a horse, if he is really afraid, and not restive, it may not be amiss to make look another way; unless the object be something you would particularly accustom him to the sight of.

The notion of the necessity of making a horse go immediately up to everything he is afraid of, and not suffering him to become master of his rider, seems to be in general carried too far. It is an approved and good method to conquer a

horse's fear of the sound of a drum, by beating one near by him at the time of feeding him; this not only familiarizes the noise to him, but makes it pleasant, as a forerunner of his meat; whereas, if he were whipped up to it, perhaps he might start at it as long as he lived. Might not this be applied to his starting at other things, and show that it would be better to suffer him, (provided he does not turn back,) to go a little from, and avoid an object he has a dislike to, and to accustom him to it by degrees, convincing him, as it were, that it will not hurt him—than to punish him, quarrel with him, and perhaps submit to his will at last, while you insist on his overcoming his fear in an instant? If he sees a like object again, it is probable he will recollect his dread, and arm himself to be disobedient.

Though you ought not whip a horse for starting, there can be no good effect from clapping his neck with your hand to encourage him. If one took any notice of his starting, it should be rather with some tone of voice which he usually understood as an expression of dislike to what he is doing; for there is opposition mixed with his starting, and a horse will ever repeat what he finds has foiled his rider.

When you ride a journey, be not so attentive to your horse's nice carriage of himself, as to your encouragement of him, and keeping him in good humor. Raise his head; but if he flags, you may indulge him with bearing a little more upon the bit than you would suffer in an airing. If a horse is lame, tender-footed, or tired, he naturally hangs upon his bridle. On a journey, therefore, his mouth will depend greatly on his strength and the goodness of his feet. Be then very careful about his feet, and let not a farrier spoil them.

Very few, although practised in riding, know they have any power over a horse but by the bridle; or any use for the spur except to make him go forward. A little experience will teach them a further use. If the left spur touches him, and he is at the same time prevented from going forward, he has a sign which he will soon understand, to move sideways to the right. In the same manner to the left, if the right spur is closed to him; he afterwards, through fear of the spur, obeys a touch of the leg; in the same manner as a horse moves his croup from one side of the stall to the other, when any one strikes him with his hand. In short, his croup is guided by the leg, as his head is by the bridle. He will never disobey the leg, unless he becomes restive. By this means you will have a far greater power over him; he will move sideways, if you close one leg to him; and straight forward, if both; even when he stands still, your legs held near him will keep him on the watch; and with the slightest unseen motion of the bridle upwards, he will raise his head, and show his forehead to advantage.

FRUIT IN THE COUNTRY.—There is a general short crop of apples in all parts of the country. Even the great Wabash Valley has failed to afford its wonted world-wide supply. In all of the counties of New York, to which we have visited, there is one universal complaint of no fruit. Massachusetts and Connecticut, we find in the same condition

MR. ROBINSON'S TOUR.—No. 12.

The Turpentine Business of North Carolina.—In this number, I will give some facts concerning the turpentine business of North Carolina. The first place that I examined particularly, was that of Mr. David Murphy, ten miles from Fayetteville, where he has lately settled, having previously carried on the business in Hanover county, which he was obliged to abandon in consequence of the loss of 30,000 trees in one season, by what some assert to be an insect, while others think the insect to be a consequence of the disease that kills the pines (See p. 225 of our seventh volume). Be this as it may, the destruction is enormous, and if it were not for the almost unbounded quantities of long-leaf pine in the states of North Carolina, South Carolina, Georgia, Alabama, Florida, Louisiana, and Mississippi, it might well be feared that the source of supply would soon be exhausted.

Mr. Murphy bought his land about two years ago for one to two dollars an acre, and it is of but little value except for a turpentine plantation. He has at present about 60,000 trees boxed, and is daily increasing the number. Four hands can tend 36,000 trees; that is, three hands to cut and one to dip; and, if the trees are good, and the season propitious, they will gather 800 barrels of turpentine a year. This is now, (May, 1849,) worth, in Wilmington, the great turpentine depot, \$2.25 a barrel, and cost of transportation is fifty cents a barrel. He thinks that at present prices, in a good place, hands will average about \$200 a year clear of expenses. Mr. M. distills all of his pitch. Two hands will run a hundred barrels through in two days. This will make 700 gallons of spirits, which is put up in the best of seasoned white-oak casks, coated with glue on the inside, to prevent leakage. It is worth about 25 cents a gallon at Wilmington, pay for barrel extra. The rosin, if from new trees, or, as it is termed, "virgin turpentine," is usually saved and put up in the barrels from whence the crude article has been taken, and is worth, or was, last year, about \$2 a barrel; while the common rosin is often not worth more than 25 cents, and will not pay for transportation any considerable distance. Therefore, at many places, not convenient to water carriage, it is run out from the distillery in wooden troughs, or gutters, that lead it far enough away from the building to be burnt without danger, and is there set on fire. I have thus seen many tons destroyed, while I could not but think how valuable it would be to many a poor family in this city to help make the pot boil. Millions of pounds are consumed in this way every year. The spirit from new boxes is also of a superior quality. I have seen it as limpid as spring water.

In commencing a new place, the first process is, to chop a "box," or hole, in winter, in one side of the tree, close down to the ground, that will hold from a pint to a quart, according to the size of the tree. An expert hand will cut about sixty boxes a day. About the first of March, the season commences, and continues till the first of October. Every week, or oftener, if there should be rain, a hand goes round and "chips" off the bark about an inch wide, and nearly as long as the length of the box. This is done with a tool constructed to suit

the position of the part to be cut. When first commencing, a crooked-bladed hatchet is used. Then a tool with handles like a drawing knife, with a blade that cuts a chip like a gouge. Finally, a similar tool is attached to a pole that enables the operator to make his cut 12 or 15 feet above the ground. When one side of the tree is "used up," a box is cut in the other, and sometimes, in large trees, a third box is cut. The second side is always the best. Some persons tap all sides at once. This exhausts the tree much quicker. By the first process, trees will last eight or ten years. After the "face" becomes several feet long, most of the turpentine coats the tree before it reaches the box. This has to be scraped off, but is not near the value of new boxes, which, of some new and good trees, require emptying once in four weeks, but generally three or four times during the dripping season. The turpentine is taken out of the boxes by a paddle, which should be of iron, and so should the buckets. These are emptied into barrels standing around all about the forest. Water in the boxes or barrels does no harm, but rains stop the dripping until recut. Damp weather is best. On clay land, the product is much affected by drouth. The business is considered very healthy, and those engaged in it are fond of that kind of employment. It requires, however, the most able-bodied men. After the close of the season, the hands are employed during the winter in scraping old trees, boxing new ones, and making barrels, preparatory to the spring business.

Mr. Henry Elliott, a gentleman well known in the neighborhood of Fayetteville, says that a first-rate hand can "chip" from 10,000 to 12,000 trees a week and go over his task every week at that. He has often seen new boxes filled in three weeks, but old ones run seven or eight. He says that he has observed the greatest death among pines in February, when there were no insects to be seen. He entirely repudiates the idea that a cut on dead pine is the cause of death to the growing trees. His experience is somewhat extensive, as he has been all his life engaged in the lumber business. He says that trees, when attacked by disease, flow two or three times as fast as healthy ones. Those which have been drained of their turpentine are nearly worthless for lumber.

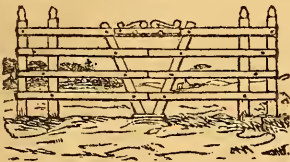
Between Fayetteville and Tarborough, I saw a great many thousand trees boxed, and in one place 15,000 are chipped by two hands working four days a week. The most common quantity to a hand is from ninety to one hundred and twenty barrels a year. It is estimated to take 10,000 trees to fill 50 barrels. A barrel contains 280 lbs. Hands, however, often have made 200 barrels of dip turpentine in a season, and nearly half as much more of "scrape"; the latter is of but little value. It is estimated to be worth two cents a mile per barrel to haul turpentine. Some of the vehicles which I have seen in use for that purpose would be curiosities worthy a place at the fair of the American Institute. One ox harnessed in shafts of a most primitive-looking cart driven by a "raal ginuine North-Carolina piney-woods man," or as is the case sometimes, a pair of shafts without any wheels, with a barrel or two of crude turpentine for a load, would be a curious sight in Broadway,

The making of tar I must reserve for another letter, lest I should stick my readers fast in an over dose of pitch, turpentine, and tar.

SOLON ROBINSON.

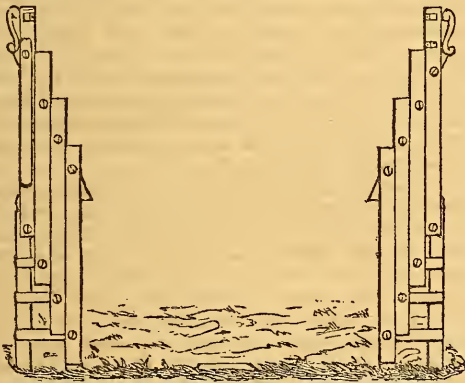
New York, October 6, 1849.

SMITH'S VERTICAL GATE.



GATE SHUT.—FIG. 89.

THIS gate differs from those in common use, in not swinging horizontally, but opens vertically by a parallel movement of rails or bars. Its superiority over other gates will readily be seen, as it does not swing sideways, and therefore can never "sag." Neither does it require any ground to swing upon; consequently it can be opened while teams are standing close by on either side, and without regard to banks of snow. It can be opened and shut easier and much quicker than the ordinary gate, and a man on horseback can open it without dismounting.



GATE OPEN.—FIG. 90.

For very heavy gates, it is designed to have weights attached to the ends of the rails, to assist in raising them, but those of ordinary size do not require this.

This contrivance is intended for any place where a gate is needed, but is more especially applicable to ferry boats, toll gates, stable doors, and numerous other places where horizontal swinging would be inconvenient. It can also be constructed single for narrow passages, as well as double for wide ones. The cost is but little, if any, more than that of the common swing gate, posts included, is less liable to get out of order, and, if needed, is more easily repaired.

A LATE AUTUMN.—We noticed, on the 29th day of October, at Newburgh, which is north of latitude 42°, that the dahlias were as fresh and bright as early in September, and tomato vines untouched by frost. The same could not be said the day after. A severe storm swept down these frail beauties.

YANKEE FARMING.—No. 10.

Good people all of every sort,
Give ear unto my song;
And if you find it wondrous short,
It cannot hold you long.—*Goldsmith.*

Fertility of Water.—"Now," said I, addressing myself to Joe Watkins, "we will have a little talk about the fertilizing properties of water, and what it holds in solution; and, Cæsar, mind your eye, there, and listen to what I am going to say." "Yas, massa, Sargeant, I hears 'em," he replied, at the same time scraping his foot and nodding his head, sailor fashion, as he turned up the whites of his eyes, "on dis subject, Cæsar am *thar*; and ef he does'nt know what water is mighty well, arter sailin' 'sixteen v'yage as cap'n's cook, gettin' washed overboard off de capes ob Varginny, which is in de middle ob de 'lantic Ocean"—not exactly, old boy, said I—"and arter floatin' all night on a hin coop—thrown over to save him in de gulf, where de seaweed was so tick he could nearabouts walk on him, like de sedge ob de old fields ob Varginny, dat massa, who brought Cæsar up, turned out like a tirty-year-old hoss he hab most work to death, cause he couldn't do nofim more; and den in de mornin' arly, afore you could see plain, a great big lubber whaleman come along side, and was goin' to harpoon dis nigger, cause he tink him de old sea sarpint ob Nahant, when he give a mighty yell, like a tousand loon"—I thought just now you were off the capes of Virginia, Cæsar. But to my reminding him of this slip in his geography, he paid no other attention than drawing a long breath, and then recommenced with more rapidity than ever the recital of his marvellous mis-haps—"When, I say, de whaleman sing out, 'Hello! you great big nigger, how come you here, den? You no sea sarpint, heh? Den you come on board, and not scare a man's eyes out floatin' de ocean in dis miserable way, like a soaked dog!' Yas, and warn't he wrecked in de most orful hur-rican dat"—

"Come, come, Mister Cæsar," said I, getting rather impatient by this time with his "long yarns," "that will do for once, and when we want you to take another swim, we'll set you afloat; but recollect it is *fresh* not *salt* water, of which you seem to have had more than enough already, we are now going to talk about; so please to listen to me.

"So, as I was telling you, Joe, you know if we don't get water on the land, somehow, either by dews or rain, or by irrigation, nearly everything on the earth will soon be parched up. Now then, water itself is made up of two highly-fertilizing substances, hydrogen and oxygen; it also absorbs nitrogen and carbonic acid from the atmosphere; but its principle value seems to be, to dissolve other substances so minutely that they can be taken up by the almost invisible mouths of the rootlets of plants, or be inhaled through the pores of their leaves, and thus form a part of the plants; or, in other words, make them grow."

"I hab him," here exclaimed the impatient Cæsar, clearing up his brow, and pulling with the strength of a giant at a whole handful of his woolly locks, till they were nearly straight from his scalp; "doesn't he bust open de mealy taters when he's biled well in de caboose pot? And doesn't he make de

meat grow big and swell in de pot?" "Not always, my good fellow; for sometimes it shrinks." "Wal, he make a pint ob rice full tree heaping pint, same as a little wave make tree big mountain wave, arter a hurricane, as I see him when we lays on our beams-end, right away off—" "Ah, now you have got on salt water again, and if we don't look out we shall have another long yarn from you, so please to be quiet once more and listen, while I go on with Joe about the fresh water."

"Yas, massa Sargeant, Cæsar belays all dat," he added, nodding respectfully, and turning a large quid over in his cheek; "but nobody 'll make him b'lieve dat fresh water's as good as salt, 'cept for bilin' vittles, and"—Here I gave him a frown which shut his mouth a while, and I went on.

"Well Joe, as I was saying to you, fresh water, in addition, always carries a greater or less quantity of fertilizing elements, in solution or otherwise, with it. If it descends from the atmosphere in snow, hail, rain, or dew, ammonia abounds in it, which is one of the most fertilizing substances applied to plants. If it takes its course over land abounding with trap, granite, or rocks which have mica, or feldspar in them, then it will contain potash in solution; if it comes from a limestone region, it will then hold lime, gypsum, magnesia, and some other elements. Now, when land is irrigated with such water, it is equivalent to giving it a good top-dressing of ashes, lime, or plaster of Paris."

"Why, how you do talk, Sargeant," said Joe; "now do tell, for that beats all natur. Who ever heerd afore there was ashes and lime in a running stream?"

"To be sure there is; and if it oozes out of swamps and woodlands, or courses down through fertile fields, and above all, if it receives the drainings of barnyards, tanneries, and manufacturing villages, as Silver Brook does, then the water becomes richly charged with decomposed vegetable and animal matter, which makes irrigating the meadows here, particularly after a gentle rain, even more valuable than a top-dressing of manure, or muck; because the salts and substances thus left on the land, are in that state best fitted to be applied to crops. Then all they want is genial sunshine, and they spring up and grow with great rapidity."

"Yes, may be, but not half so fast as our brave Sargeant has done lately in big larnin'," exclaimed a loud voice, that started us all abruptly to our feet, and which, upon turning round, we found proceeded from the stentorian lungs of Uncle Sim.

"Why, Mr. Doolittle, I had no idea you were near."

"Sartinly you hadn't," he replied, laughing, "but didn't I tell you, when you promised to give Joe a lectur about water kimics, sometime when I wasn't by to hear you, didn't I tell you, I say, that I would be there in spite o' you, if for nothin' else but jest to plague you? Wal, here I be. When he's got his dander up, and detarmined on a thing, it's an old fox that steals a march on Simeon Doolittle. Wal, I guessed you'd be here arter a while, so I and the boys keeps a smart look out, and as I peeked through the winder a spell ago, I see you all movin' sllly along my meaders.

* See January number, page 32, line second.

Then says I to the boys, says I, if there aint the Sargeant, and Joe Watkins, and that 'ere great big sassy black-a-moor, Cæsar, sittin' down talkin' over our ditchin'. Now hoorah for kimics, says I. So out we runs, and down round the hill, and then up behind the trees, stealin' softly along to the bank of this ditch, when we laid down snug as a coon in a beanfield, and heerd all you was lecturin' about."

"Well, sir," said I, "you have done a capital job, and your improvements are really surprising."

"Yes," added Joe, "Mr. Doo-little has showed his mammy warn't Mrs. Spin-little this time."

"Spade-little, or Shovel-little, you mean, Joe, I suppose." "Just as you say, Sargeant," he replied, "for you're ollous takin' a body's words out o' his mouth, you're so consarned quick at improvin'." "Well, Joe, never mind; for one thing is certain—we shall see no more poor steers on Uncle Sim's farm, but stout, fat cattle in their place; for the meadows will produce the best of English grass hereafter, and I hope he may profit well of what he has overheard of our discourse, and make still further improvements."

"May be I will, and may be I won't, Sargeant," replied Uncle Sim. "Yet let me ax you, didn't everybody know afore you begun your long-winded lectur, that it took water to make things grow? But as for them ere high-gins, ox-gins, and nigh-gins, what can the man mean? I've heerd tell of a cotton gin, and I've smelt, afore now, o' Holland gin, 'specially at hayin' time," he continued, at the same time smacking his lips, and giving me a sly wink; "and the temperancers may say what they like, I know Holland's good for horse, as well as human stomach aches, and it cures bots, too, as I can prove."

"Now just stop, will you, Mr. Doolittle," said Joe; "for if you once get on horse ails, we shall never hear the end on't. I guess I know what the Sargeant means by all his *gins*—its a kinder somethin' floatin' in the air, that settles down and makes things grow." "Quite right, Joe," I added; "they are gases which combine and solidify into grass, grain, vegetables, trees, and even stone and metals." "Why," said Uncle Sim, opening his eyes in utter astonishment, "you don't purtend to say, Sargeant, that air turns into rock and iron?" "Certainly; and by burning them with oxygen, we can dissolve them into air again, or, rather, floating gas, which ascends into the air, and is lost to our vision like smoke, or steam. You often see fog risin' from the water. Now this is produced by nature in the same way that steam is, but when the sun comes out, or a wind blows, it disappears to the eye; but soon it condenses again, high up, into clouds, and ultimately falls to the earth in rain. Pray, is this more wonderful than that solid substances should be turned into thin air?"

"Wal, Sargeant, I can't reply to none o' your larnin', that's a fact, and some how or other you ollous contrive to be right; and what's more, I'll give you the credit o' makin' things work on your farm a leetle better even than you talk; and yet, I kinder think your daddy missed a figure when he didn't send you to college, and make a purfessor on you, instead of a farmer. What big talk you

would a gin the boys, heh?" "But, Mr. Doo-little," I replied, blushing somewhat at his flattering appreciation of my abilities, "perhaps as a learned professor at college, I might not have been so useful as in the sphere I now occupy; though I would gladly have more time to study than my laborious occupation permits. Still I do not regret that I was bred a farmer; and to quote a proverb, like yourself, my good neighbor, recollect, that 'He is the best scholar who hath learned to live well.'" "Yes," echoed Uncle Sim, firing up with great animation, "Him that's born of a hen must scratch for a livin'. I don't mean to insinuate by this, Sergeant, that you wasn't well born, I only meant 'What is bred in the bone will come out in the flesh;' which is as much as sayin', it was quite nat'ral for you to keep to farmin', as your father, grandf'er, and great grandf'er, clean up to Adam, fur-zi-no, did afore ye."

SERGEANT TELTRUE.

THE COW—HER DISEASES AND MANAGEMENT.— No. 19.

Dropsy.—This is not a very common disease in cows; but when it does occur, it is more frequently met with in the chest. It is caused either from an obstruction of some of the principal organs, particularly the liver, and hence appears in conjunction with many other complaints, as jaundice, &c., or it may proceed from a general relaxation of constitution, when the powers of life are being, as it were, exhausted.

The malady is known by a swelling in the dewlap, similar to what takes place in anticor; but here it is soft and puffy, accompanied by a diminished quantity of urine, and the eyes of the animal show a whitish appearance, with weakness and a discharge of a watery fluid.

With the above-named symptoms, the cure of this complaint is very uncertain. It is generally attempted first by giving vent to the accumulated water, and afterwards, when this is done, in endeavoring to prevent its return, by bracing up the habit. The collected water may be removed by general purging, which may be effected by the following medicines:—

Take of flour of sulphur, 9 oz.; saltpetre, $1\frac{1}{2}$ oz.; grains of Paradise, 3 drachms.

To be mixed for one dose, and given in two quarts of water gruel, sweetened with half a pint of molasses. Along with this, a fléam may be struck into the dewlap, so as to make ten or a dozen orifices, which, as well as the other parts of that organ, are to be rubbed with the following ointment:—

Take of linseed oil, 8 oz.; oil of turpentine, 2 oz.; oil of vitriol, 1 oz.

The last-named article to be gradually mixed with the other two.

During the interval of purging, the following diuretic may be given in two quarts of water gruel:—

Take of Castile soap, $\frac{3}{4}$ oz.; aniseed, in powder, $\frac{3}{4}$ oz.; valerian, in powder, $\frac{3}{4}$ oz.; camphor, $1\frac{1}{2}$ drachms; saltpetre, $\frac{3}{4}$ oz.; fennugreek, $\frac{3}{4}$ oz.; sweet spirits of nitre, 3 drachms.

To be repeated once or twice a-day, till the swelling of the liver, or other symptoms, depart. These

are believed to be the only means of cure in the power of man, and when unsuccessful, little else can be done.

The food of the animal, in this case, should be nourishing, and rather dry in its nature. Friction and warmth will also be highly useful.

Wounds in the Soles of the Feet.—Wounds in these parts are occasioned by a number of accidents, such as being worn through by travelling; also, by treading on nails, sharp stones, glass, or any other substance which may penetrate through the hoof to the quick, all of which will cause lameness, and the parts soon become festered. If neglected, the confined matter will make its way up between the hair and hoof, and consequently render the cure more tedious.

As soon as the lameness is perceived in the foot, from any of the above-named accidents, the foot should be drawn out as soon as possible, in order to search for the wound; and the hoof must be taken off as far as it is hollow, underneath, so that a proper remedy may be applied to the affected part. When this is completed, the following ointment is to be spread on cotton or tow, which is to be closely confined upon the wound with a cloth and string:—

Take of tar and common turpentine of each 1 lb.

To be put in a pipkin over a slow fire, till they are completely dissolved; then remove it from the fire, and add to it four ounces of spirits of turpentine, which should be well stirred and incorporated together. The dressing may be repeated every other day till the foot is well.

This method, in recent cases, will generally succeed in effecting a cure; but if the case has been of long standing, and the wound has become ulcerous, then a different mode of treatment must be pursued.

FARMERS, STAY AT HOME.

THIS saucy republic of America is an everlasting "great country," (at least it is shrewdly suspected that it will be, when the bounds are fixed,) and this greatness, or vastness, though a matter of gratulation and pride to ourselves, as a nation, is the very thing that has kept the farmer from rapid improvement in the management of his affairs. Land being more plenty than people, it is *cheap* here, in comparison with other countries, and therefore the farmer settles on new land, which is bought for a trifle, and when he has nearly exhausted his soil, instead of attempting to renew it, he adopts what he considers a cheaper course; he sells his farm for what he can get, pulls up stakes, and moves away to some other new land, the soil of which, without the trouble or expense of manuring, is ready to bring forth large crops upon merely receiving the seed from the hand of the owner.

Well, this system may have been very well once; it has served to push our backwoodsmen further towards our borders, on the great west, and thus aid in peopling our magnificent territory, and developing our vast resources; but as it is important that we, somehow, manage to keep a few farmers in our New-England and Middle States, it stands us in hand to see that they pay attention to improvements in agriculture and the creation of new soils, so that they may not be tempted to run

away to the rich prairies of the west, and leave those engaged in other occupations to eat their own productions. For my own part, as a showman, I should be sadly puzzled if I was forced to eat "stuffed monkeys," "Fejee mermaids," or "woolly horses," and I have no doubt that many others would be bothered to digest their own productions. I will merely instance the blacksmith, the shoemaker, the clergyman, the dentist, the saddler, the carpenter, and the stone mason. Surely the blacksmith would be obliged to pick his teeth with one of his own nail rods, after having made a breakfast of horse shoes or ox chains; the shoemaker, after dining on sole leather and black wax, would hope it was his *last* and his *all*; the clergyman, who could digest nothing but his own sermons, would consider it a terrible sentence to be forced to "eat his words;" the carpenter would declare it was the hardest *deal* he ever *saw*, if he was obliged to swallow deal boards for his lunch; the dentist would starve to death "in spite of his teeth," if he had nothing but teeth for his food; the saddler would rather be a horse, and wear the saddle on the outside, than to find a place for a *stir-up* in his interior; and the stone mason would soon be at work building his own sepulchre, if he saw that he must gnaw nothing but granite, till "dust returned to dust."

It seems quite necessary, therefore, that we should keep the farmers among us, and as this is only to be done by letting them have land worth tilling, it is highly important that they should know how to *make* such land.

When I visited England, six years ago, the first thing that struck me was the beauty and fertility of the soil. Every farm appeared a garden. In fact, England *is* a garden. Every inch of land is cultivated. Even the sides of railroads, up to within a few feet of the iron track, are made to produce wheat, barley, or potatoes. The beautiful lines of hedges, which so gladden the eye of an American, enclose no uncultivated lands. The very hill tops are made fertile to their summits; the swamps are drained, ditched and blind-ditched, and every foot of earth that the labor and ingenuity of man can render cultivatable, is made to send forth its green stalks and golden harvests.

It is important that the American, and especially the New-England farmer, should know *how* this is all done. I have dined and lived with English farmers; I have associated with them; I have frequently obtained their friendship, and sometimes their confidence; and, by hook and by crook, I have wormed this important secret out of them. I have obtained their philosopher's stone; I have got the clue to the ever-living fertility of their soil; and now, Connecticut farmers, in the fulness of my heart, which happens at this time to be overflowing with the "milk of human kindness," I will *freely*, without the hope of fee or reward, impart to you this grand *secret*. See that you improve by it. It all consists of one simple word, not to be repeated less than *three* times, and as many more as you please, provided you act as often as you speak—*manure!* *MANURE!* *MANURE!*—*Barnum's Address.*

MOUNTAIN MUTTON—VENISON.

As we passed up the Erie Railroad, along the Delaware River, the middle of October, we noticed fields of oats that had been cut only a few days before, and we were told that they were still growing green when cut. The corn, as it stood in shocks along the narrow strips of bottom land, widely contrasted with the specimen, eighteen feet high, from Illinois, which we saw at the Syracuse fair.

The most universal crop, we noticed in this valley, was buckwheat. We hope the grain was abundant; for we are sure that the strength of the soil could not have been exhausted by the great growth of straw, for the very simple reason that it did not grow.

Shut in, as many of these valleys are, by mountains, that hide the morning and evening sun, and from their elevation, which subjects them to early and late frosts, they are not desirable locations for husbandmen; but surely, if well stocked with sheep, they might supply the New-York market with an abundance of most delicious mountain mutton. And why not also with venison? A park of deer might be made to yield more profit than many an inland farm. This matter is worthy of reflection. Venison is now worth, in this city, 25 cents a pound.

AN OLD SAILOR TURNED FARMER.

As an evidence that those who are brought up from youth upon a farm, do not always make the best farmers, we will call attention to a place near Newburgh, owned and managed by a man who has spent the most of his life on the ocean. And yet we venture to say that there is not a better cultivated farm in Orange county. We had the pleasure of a short visit to this farm, a few days ago, and a dinner of carp from his fish pond. It may be interesting to our readers to know that this stock of fish, together with gold fish, were imported from Europe by this proprietor, and are now rapidly multiplying in the Hudson.

We saw the best piece of wheat upon this farm that we have seen this year; less injured by the drought than other pieces, and all because the land was plowed deep, (never less than nine inches,) and well manured. To grow wheat or corn he prefers a Timothy sod, turned flat, and never stirred afterward. He considers it equal to a good dressing of manure turned under; and contends that the whole secret of successful farming, consists in manuring bountifully and in deep plowing. His rule of seeding wheat is two bushels to the acre—never less—and with the wheat half a bushel of Timothy seed. He says that Timothy, for grass or hay, is better than clover; that cows will leave clover to eat Timothy, and that they will make more and better butter upon it than clover, and he has considerable experience, keeping fifty of them.

The dairy is in charge of a farmer who carries on the place upon shares, and gives the proprietor sixty-seven pounds of butter per annum, for each cow. The milk is kept in an underground room of the farm house, which is regulated, in cold weather, by a stove, at a temperature of 65° F. In summer, it is kept as near that as possible, and the

milk churned early every morning, in four-barreled dasher churns, by horse power. It takes twelve to fifteen quarts of milk to make a pound of butter, which, when sold, averages twenty-five cents a pound, and the milk is worth two cents a quart.

When this farmer took us to see his pens of handsome Lancashire porkers, that get half of their living from buttermilk, we acknowledged that it was better to make butter than sell milk; for, in addition to the pork, there was a valuable lot of hog-pen manure to make more grass to make more butter, and so on a continual round.

A BIT OF PRACTICAL FARMING.

WE were highly amused while listening to the address of P. T. Barnum, Esq., at Bridgeport, the other day, at an anecdote he told of his experience as a farmer. It is best told in his own words. It is about

Selling Potatoes.—"In the fall of 1848," said he, "my head gardener reported that I had 80 bushels of potatoes to spare. So, of course, I directed them sold. They brought 67 cents a bushel. But, like most all small farmers, he sold the largest, and left us nothing but "small potatoes" to eat at home. But the worst is to come. In March, we had not even a dish of *small potatoes*. So we bought more than we sold, and paid \$1.25 a bushel at that! My experience, therefore, is, that a farmer had better ascertain first how much he wants for his own consumption, before he sends his produce to a cheap market."

Trimming Fruit Trees by an Amateur.—Another of Mr. Barnum's experiments was in the horticultural line, and was related by him with such inimical good humor, that his large audience was nearly convulsed with laughter. "Having been elected President of the Fairfield-County Agricultural Society," continued he, "I felt the importance of my having a little *practical* experience as a farmer. Having read a little about pruning, and watched my gardener a while, I armed myself with a keen carving knife and set to work on my own book. My first essay was upon a lot of young cherry trees. Half an hour, and my sharp knife gave them a very symmetrical appearance, and removed all redundant limbs and sap-absorbing sprouts and suckers; and I prided myself somewhat upon this first effort as a pruner, and, of course, expected suitable commendation from my gardener for the labor I had saved him. Judge my astonishment, then, as he approached with a rueful countenance, and expression of 'Well, sir, you've done it now!' 'Why, yes, I fancy I have. How do you like my work?' said I. 'Like it! *Why, sir, you have cut off all the grafts!*' This was a sad blow to my farming aspirations. But as I never despair, I shall continue to go ahead with improvements, but shall be a little cautious how I use the pruning knife, until I learn to know a sprout from a graft.

"I hope the relation of my *experience as a farmer* won't deter many others from seeking the same employment; for if they are capable of using the pruning knife at all, I think they are capable of learning to distinguish, perhaps, at less cost than I did, the useful from the useless, and if they did not, perhaps a little sprouting, *a la mode* our young days, might help to improve their education."

THE FARMER IS NOT PROPERLY ESTIMATED—WHOSE FAULT IS IT?

It is a lamentable fact, that the farmer does not occupy that elevated position in society that his occupation justly entitles him to. He is looked upon as a being quite below the lawyer, physician, divine, artist, merchant, or even a merchant's clerk. To be a *farmer*, is to be a nobody, a mere clodhopper, a digger of bogs, and ditches, and dung heaps, and free to wallow in the "free soil" he cultivates, provided he never seeks to elevate himself above that position, to what the world is pleased to term "good society." Hence comes the desire of "the boys" to escape, not so much the drudgery of their employment, as from the idea that they are looked upon and estimated as mere drudges.

What blindness, folly, and false philosophy is this! The result of these false premises, is, that the "professions" are crowded to the starvation point; clerks not only go begging, but become beggars, or worse; merchants are multiplied, and good, old-fashioned labor is going out of fashion.

While we would give all due honor to the professions, the farmer, who is the *producer* of all, both in food and raiment, that adds to the comfort and sustenance of the human family, need not feel that he is *below* occupations that gain their support from the folly, pride, misery, or wickedness of their fellow creatures.

If the aspiration of farmers were half so strong to elevate their sons as farmers, as it is to make them merchants, or professional men, and, perchance, loafers, we should soon be taught to look to the agricultural class for the best bred, as well as best fed men in America.—*Barnum's Address.*

EFFECT OF THE N. Y. & ERIE RAILROAD ON THE BUTTER AND POULTRY MARKET.—Fifty thousand dollars' worth of butter has been shipped on one boat from Newburgh, at one time; while twenty to thirty thousand dollars' worth, as a common freight, used to be frequent before the New-York and Erie Railroad was completed. This road somewhat lessened the freighting business of Newburgh, but added immense amounts to the New-York market of almost everything that is eatable. A few years ago, turkeys, ducks, and chickens were hawked about the streets of Owego, begging for buyers. But now, if you want an article of that kind, you had better snap at the first offer, or it is off for New York. And eggs are eggs for a surety there now. Railroads are wonderful revolutionizers.

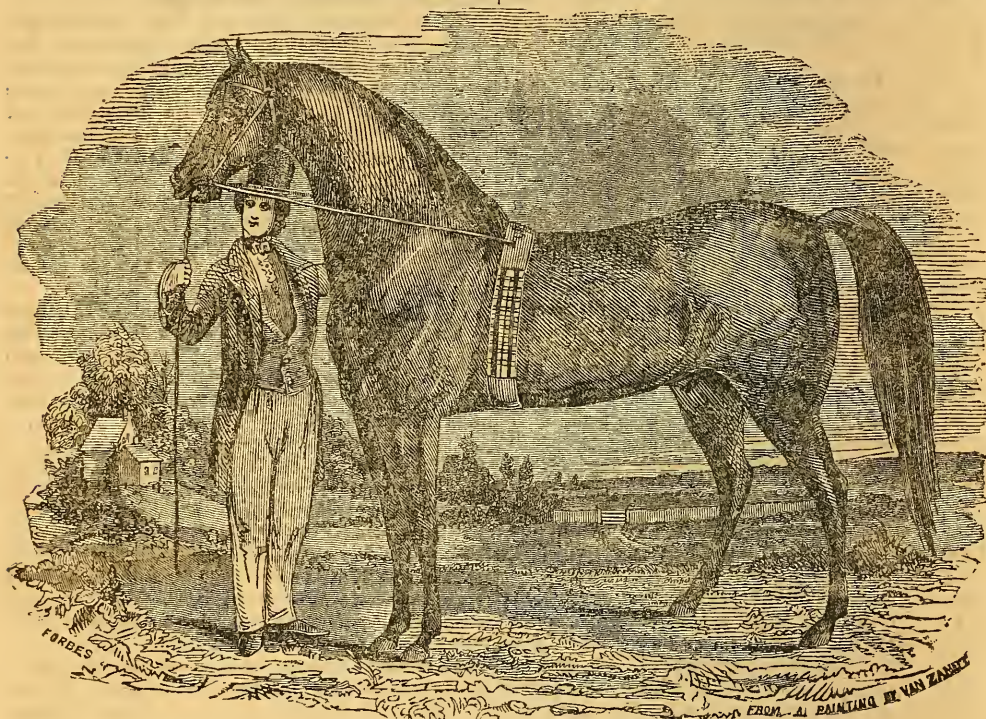
EFFECT OF RAILROADS ON THE MARKET.—Whether the railroads leading into New York have had a tendency to cheapen produce in the city, we cannot say; but certain it is, they have greatly enhanced the price at the farmer's door. We were struck with this at Binghamton, the other day. The price of poultry has more than doubled. Butter is within two cents of the weekly average in New York. Venison used to be a common dish upon the tables of the quiet villagers of that once inland town; but now they cannot afford to pay the two shillings a pound that the city epicure will pay in New York, where it can be sent in the morning, and served up for supper the same day.

BLOOD HORSE, ALEXANDER.

THE cut below shows a *thorough-bred* horse, of good size and form, for breeding farm and road horses. The portrait is rather *leggy*, more so than the original, and in this respect, is objectionable for the purpose designed. We deem it of great importance to maintain the best standard of *blood horses*, for the purpose of correcting the inherent faults of a large proportion of our American horses. They possess wind and spirit, as well as density of bone and muscle, which are essential requisites in all working animals. Many of them, however, do not possess the requisite size and form, to breed the most useful and serviceable workers or roadsters, and some have a constitutional nervousness, or

viciousness of temper, which totally disqualifies them for good breeding.

While we are decided advocates for the infusion of a large proportion of blood in all animals, we would by no means be indiscriminate in the use of it. Many of our horses are already bred sufficiently high in the blood, and a further addition would impair, rather than improve, their useful qualities; and many bloods, from possessing one or more of the above defects, are worse than useless for breeding. When all the characteristics of the best bloods are combined, as in Messenger, and some of his descendants, there can hardly be too much of it. A nice discrimination can always detect the precise length, to which breeders may be



BLOOD HORSE, ALEXANDER.—FIG. 91.

justified in going, to secure the fullest amount of benefit, with the least proportion of defect, from the use of the *thorough bred*.

A FLIGHT THROUGH MASSACHUSETTS.

Yankee Farming, Continued—The Contrast.—I will now take the residence of Mr. E. R. Mudge, at Swamscot Beach, in Lynn, Massachusetts, as a contrast to those described in my two former articles; because it is a good specimen of what can be done on a very rough spot, and because I like to show the public what an enlightened and enterprising man, imbued with the spirit of agricultural improvement, can accomplish by spending his money in a rational way. That the reader may not think me invidious, however, in my selections, I will here state that there are a great many improvements annually effected in all the New-England states, and not a few gentlemen there have

done, and are still doing, as much, perhaps, as Mr. Mudge; but in my hasty flight, I could not take time to visit them; and as I only speak of things seen, I must defer notices of others, until, with the spring birds, I may return from the south and trim my wings again for another flight through my old native state.

Mr. Mudge is better known as proprietor of the Verandah Hotel, New Orleans, which is one of the best in America, than as a Yankee farmer, spending his winters there and summers here. His farm consists of 120 acres, and is mostly of that character which the Indian described as his farm—"all long and no wide, and run deviling up among the rocks;" just such land and rocks as are to be seen in New England, and nowhere else, with the old stone walls, and ancient apple trees, with here and there a little "meadow," on arable spots.

Mr. M. paid \$4,000 for the place some four or

five years ago, and now, in consequence of the improvements, not alone of the soil, but because the improvements have added to the value of the neighborhood, the same land would sell for five times as much as he paid for it. One of his first acts was to build a residence, which is neat, substantial, convenient, roomy, and in every way comfortable, without having the appearance of a castle, or any unnecessary extravagance. And the "stone cottage" is all this, at least. It is built of rough granite, in diamond blocks, one story high, but from its size, 52 feet square, it affords ample lodging rooms up stairs. It is finished, and furnished richly, yet as plain as neatness could imagine. In front, lies a broad, smooth, grassy lawn, beautifully ornamented with a great variety of trees and shrubs, with ornamental cuts for flowers in the sod, the whole forming a lovely, shaded retreat, almost hidden amidst a cluster of native trees, which stands like an island in the grassy slope that reaches from the front door down to the road. South of the house, surrounded by a rustic fence, is an extensive flower garden, arranged in the neatest order; and in the rear, not too far distant for convenience, though well screened by shrubbery, stand the very neat and commodious stable, carriage house, and out-buildings. A little further on, towards the "farm house," the passer will notice a sweet little cot, quite an ornamental gem. This was built by Mr. M. for the home of a couple of servants, man and wife, which he brought from the south, and who are now serving him for wages, instead of for life.

Many of the trees seen around here have the appearance, both in size and vigor, of having stood in the same place since they first sprouted from the acorn, or the winged messenger of reproduction from the maple, as well as many other native American trees, that now adorn and beautify a spot, that, only five years ago, was as bare and unsightly as any other old rocky pasture in the state.

Moving Forest Trees.—This, Mr. Mudge had never seen done; but the Yankee character is sufficient for all emergencies. He first went to the woods, about five miles off, and selected his trees, some of them eight or ten inches through, and dug a trench around, leaving a good mass of roots and earth to the trunk. This was done in the fall. As soon as the earth was frozen, so as to hold together, each tree was ready to be moved. He then took a pair of timber wheels, the tongue of which was hitched behind a wagon; and when backed up to the tree that was to be moved, the tongue was loosened and turned up into the tree top, and firmly lashed; and the trunk of the tree was bound to the axle, taking care to protect against bruising. The tongue was next hauled down and fastened, and the roots elevated, by this easy process, clear of the ground. When the place was reached where the tree was required to flourish, the wheels were backed up to the hole, which was previously dug, the fastenings cast off, and the whole tree allowed to settle in the position it was required to grow.

Protecting and Keeping Roots Moist.—I was struck with the manner that this was done effectually, while it added much to the looks of the work. After the ground is well smoothed off and made firm, a coat of coarse hay, or straw, several

inches thick, is spread over the surface, and some small poles laid on so as to radiate evenly from the trunk; then other poles are bent round to form a rim, like a wheel, and all fastened down by wooden hooks. This, besides being of great advantage to the tree, rather adds variety to its appearance, instead of marring it by a view of the naked earth at its base.

Other Improvements.—The front fence is a solid wall of granite, which I much prefer to iron, where stone is abundant, and needs to be got rid of, or appropriated in some other way. Mr. M. has expended some \$16,000 in his house and grounds, but it is one of those common-sense improvements that will always command a return when required; and it is certainly a much more rational way for a gentleman to expend his money, in providing, as he has done for a lovely family, a lovely home, than it is to hoard it up, and spend a life of discomfort in an uncomfortable house, or mewed up in close quarters in some brick and mortar street.

I cannot close without adding a due meed of praise to Mr. Mudge, for another expenditure which he has made at Swampscot, for the benefit of the large settlement of fishermen there. With the assistance of a few other gentlemen, whom he roused to action, a beautiful little church has been erected, whither he and his excellent wife go every Sabbath, with their children, to attend a Sunday school; thus giving his personal influence, as well as the influence of wealth, to improve the condition of his fellow men. May his days be long and happy.

SOLON ROBINSON.

New York, Oct. 25th, 1849.

CLOVER IN GEORGIA.

MR. RICHARD PETERS, of Atalanta, informs us that he has some forty acres of red clover now growing upon his place, and a hundred more seeded, that bids fair to afford him as rich a return as some of the clover fields of New England. Mr. P. is reversing the common order of things in that country; for, instead of regarding grass as a nuisance upon a plantation, he treats cotton precisely in that way, exterminating it as he would a worthless weed. He thinks that clover is to be the salvation of Georgia; as cattle can be supported by it, and by them corn can be manured, wheat grown, and yet the soil not be exhausted.

Mr. P. has purchased another supply of improved stock, tools, and seeds, with which he is determined to show his neighbors that Georgia lands can be improved, as well as in the northern states. He has also employed a young man who has been bred a New-York farmer, to go out with him, to try and teach his laborers how to cultivate his land upon an improved system.

A PROFITABLE SOW.—Mr. Grant, who keeps the hotel upon the wharf at Poughkeepsie, informs us that he has a sow that dropped thirteen pigs last April, five of which he sold, at four weeks old, at \$2 each. The others he kept until September and fed upon the slops of the house until they became very fat, and averaged 148½ lbs. a-piece, making 1,188 lbs, which brought five cents a pound, making the snug little sum of \$59.40 for the pork, and a total of \$69.40 for one litter of pigs within five months.

REARING AND MANAGEMENT OF POULTRY.— No. 4.

Pairing.—With good management, peace, and plenty, just before they are full-grown, the combs of both the young cocks and pullets will be observed to become of a more brilliant red; the former will crow more lustily; and the pullets will grow animated, restless, and full of busy importance, as if a new idea had lately broke in upon their minds. By-and-by, they will commence prating and cackling, and in a few days, the delighted pullet will lay her first egg. And when, time after time, this first instalment is followed by similar deposits, she thinks herself, and is thought by her amateur owner, a perfect paragon. Such are the pleasures of productiveness.

In order to keep fowls with advantage, attention must be paid to the relative number of cocks and hens composing the flock. On this point, there is some difference of opinion. M. Parmentier considers that one cock is sufficient for twenty hens, which, in France, perhaps, may be the case, but not in the cold and variable climate of many parts of the United States. Indeed, it has been found by experience, that, if a cock be placed over a numerous flock of hens, the chickens produced are feeble, and the breed soon degenerates, or runs out. The old breeders of game fowls, allowed only three hens to one cock; and where renovation of a breed is required, this proportion, it is thought, should not be exceeded.

As a general rule, from eight to twelve hens may be assigned to one cock, but no more; nor, indeed, even so many, if the fowls are kept in a confined yard, where the depressing influence of captivity will be more or less experienced. In a cold or humid climate, perhaps, this number is the best; but in a warm, dry climate, or where the fowls are healthy and have a free range, a greater number may safely be allowed.

When there are two or more cocks of the same age, a little management will be required to prevent them from fighting, which it will be almost impossible to avoid; but one cock may be brought up under another, each, in turn, gaining the ascendancy over the male portion of the successive broods. For instance, a stock of fowls, intended to be increased, may consist of twelve hens, with a single cock at the head. Out of the young chickens hatched, a certain number will be selected for keeping. Among these should be the most promising and beautiful of the young cocks. When this new comer is a twelvemonth old, his progenitor will have arrived at the age of two years. In like manner, the number may again be added to, till the stock is sufficiently numerous. When the old cock is past his fourth year, however, it will be advisable, generally speaking, to get rid of him; as he then becomes lazy, violent in temper, and excessively jealous. Should it be deemed necessary to introduce a new cock, a young bird should be selected, and introduced to the hens at the period of moulting, when his older rival will take but little notice of him, and ultimately become reconciled to him by the time that the laying season commences; and, during the interim, he will ingratiate himself with a certain number of the hens, which will appreciate his marked politeness, and acknowledge him as their brave defender.

Where numerous fowls are kept, it has generally been observed that each cock has his own female train, which follows him, and is always at his call; and that they are divided into coteries, or groups, and have each their favorite places of resort; but should a strange cock make a sudden appearance on the premises, he will have many a hard fight before he can establish himself, either in the character of a conqueror, or a defeated champion.

AMERICAN PROVISIONS IN ENGLAND.

Provisions have at length become so large a part of our exports to England, that we think the following article on the subject, from Messrs. Allen and Anderson, of London, worthy an insertion in our columns. We regret, however, to notice that American provisions are still so imperfectly put up. It is disgraceful to our farmers and packers that it is so; and unless they adopt the latest improved systems, they must expect to lose money in their business, instead of making it, as they may do. Their extreme negligence has at length become proverbial abroad, and created a great prejudice against American provisions. Europeans are much more refined in their tastes in such matters than the Americans, and the sooner we gratify their fastidiousness in this particular, the better it will be for us.

The growing importance of the trade in provisions from the United States, induces us to offer a few remarks on the business of the season now closing. That it has been an unprofitable one to almost all concerned, cannot be doubted. That it has, notwithstanding, taken root as an increasing branch of commerce, is proved by the import returns; and that the consumption of this country has been greatly stimulated by the immense supplies thrown in, is, we believe, beyond all question.

Commencing with bacon, the imports of American into London,

In 1847, were . . . 14,161 cwts.

" 1848, " . . . 70,823 "

" 1849, " (9 months.) 140,096 "

a considerable portion of which was soft, oily, and inferior in quality; and to this circumstance, more than to the great quantity, the serious declension in prices, and consequent heavy losses to the shippers, are attributable.

The article best adapted to the London market, is singed sides about 56 to 64 lbs. each. Some of the early arrivals of these, last winter, came of a very fair quality, and the meat of a good, firm texture. The dealers, tempted by the prices being 12s. to 15s. per cwt. under the Irish, at once introduced them to their customers; nor did a decline of 8s. on the Irish abate the demand for American; and we have little doubt that, had the quality and firm texture continued to improve, the Irish must have gradually yielded, as to any weighty supply, to the cheaper production, from the United States.

But the subsequent arrivals were comparatively so carelessly put out of hand, so soft, oily, and inferior, and so mixed in sizes, that Irish sides were again preferred, even at advanced rates, while the American became, and continued, a dull dragging trade—many of the best dealers abandoning the article altogether.

At this juncture, Hambro' bacon began to attract notice. The shippers there paid every attention to the

quality, carefully selected the choicest and firmest meat, and did all in their power to carry out the suggestions of the dealers here. The result was, that Hambro' rose to within 4s. to 5s. of Irish; the quantity increased from 100 to nearly 500 bales a week, and at the present moment it sells as fast as it arrives, at 54s. to 56s.

It remains to be seen whether the defects above alluded to in the American, can be remedied the coming season; whether an article can profitably be sent from the states that will command a sale at 8s. to 10s. under the price of Irish, and maintain its ground on its own merits.

Ice-Cured Singed Sides, or shipments made during the summer heats, do not answer; the meat sustains, in all cases, an injury that lowers the price, and in some instances has done so to the extent of 50 per cent. Shipments of singed meat, by New Orleans, ought, for the same reason, either to be avoided altogether, or made only in the months of December and January.

We have referred more fully to the article of singed sides, because it is the leading one of the London trade, and we expect may be made most profitable to export from the states.

Scalded Sides, of similar cut, are saleable at about 4s. to 6s. under singed, and where the length of the transit might cause liability to heating, are to be preferred.

Boneless Long Middles, and Small Square Middles, either boneless or with the rib in, are the next best articles adapted to this market. Some of the first arrivals of these, last year, were very fine, and met a prompt sale at 40s. to 42s. up to 44s., but the subsequent immense shipments were of such mixed, and commonly of such soft, inferior quality, and also of such large sizes, that not only did the market for all kinds break down, but the character of American generally was injured, and even the best articles swamped by the quantity of inferior. Boneless long middles should weigh about 40 lbs. to 50 lbs. each, the smaller preferred. Short-square middles from 18 lbs. to 25 lbs. each. All bacon is best packed in well-seasoned boxes, to contain about 3 cwt.

Hams, this year, have come of superior cut and cure; but the bulk are still obnoxious to the serious objection of over saltiness. This is a fault so fatal to a quick sale, that it ought studiously to be avoided; less than one half the salt would be sufficient, nor when packed for export need there be beyond a very slight sprinkling put into the cask. In the past season, heavy losses have accrued in consequence of the late period at which large quantities of hams arrived. There is always a falling off in the demand towards the end of July; it is therefore unsafe to venture on shipments after June. We had a brisk demand at 40s. to 46s. for the best sorts up to the 10th of July, whereas, since then, all kinds have been nearly unsaleable at 30s. Some smoked-dried small-sized hams, of excellent quality and handling, arrived last January, and met a ready sale at 64s. Dried hams should be from 10 lbs. to 14 lbs. each, in casks of 5 to 6 cwt. Hams in salt should be from 15 lbs. to 25 lbs. each. Long-cut are in all cases preferred.

Shoulders should be as mild as possible, the weightier the better; and if the whole neck end

of the side be left on, they bring 2s. to 3s. more money.

Tierce Middles, Strips, and all Pickled Meats, for domestic use, have been in singularly bad demand throughout the past season, and still continue so. We are unable satisfactorily to account for this, unless it be from the abundance of, and low prices ruling for, other middles. The sizes best suited for sale here, are 10 to 15 middles per tierce of 336 lbs. Strips generally run too fat by at least half, and are in consequence now quite neglected.

Prime Mess Pork has been a losing article. Some few of the first arrivals of New York and Baltimore brands, came of prime quality and brought remunerative prices. But almost all the western brands have come particularly bad, defective in cure, wretched in color, and the meat soft and inferior. The pressure to sell them caused the market to give way, and the subsequent glut of similar inferior kinds, prevented all hopes of a rally, and operated most injuriously upon both the character and prices of American pork. The stock still on hand is very considerable. Fair good quality, though offered at 40s., and the inferior descriptions, though offered at 32s. to 34s. per barrel, find few buyers; whereas, had the article been of really prime quality, all would have cleared off at 50s. and upwards. The chief defect in almost all American prime mess pork, is in the color. Instead of being the bright, cherry-red, characteristic of skilfully-pickled meat, it is a dirty, dull, unsightly brown. That this is remediable, and arises in the manufacture, is proved by some few brands coming otherwise. But unless it be obviated, the preference will continue to be given to Irish and Hambro', (although inferior meat,) at much higher prices. A sale of 950 barrels of Hambro' prime mess was made last week at 65s. to a house who previously examined every parcel of American in the market, and declined all—a startling proof of the necessity of greater attention to color and quality.

Beef needs little remark. The great bulk of the large shipments, last year, came of excellent color and quality, and though prices lowered in consequence of the quantity arriving, yet the stock has been nearly all got through, and the character of the American beef confirmed as being superior to the Irish. The absence of the usual government contract, this year, (owing to a sufficiency in store,) will cause the Irish shippers to compete for a share of the trade. But at about present rates we expect a large demand for the best kinds of American.

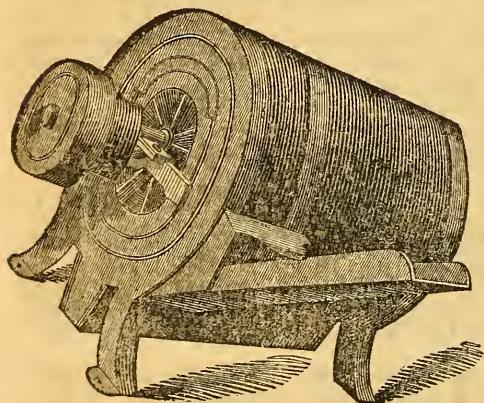
Pigs' Tongues, which heretofore were liable to a duty of 7s. per cwt., have, upon our representation to the Lords of the Treasury, been allowed to pass duty free.

Lard has been in considerable less consumption the last eight months, arising chiefly from the serious reduction in the prices of butter and tallow; both these articles continue low, and disappoint the sanguine expectations of many as to a smart advance in lard. The experience of the past season proves that lard in white kegs, refined in the states, does not answer. The English refiners turn out a neater and firmer article, having the advantage of a delivery at once to the dealers, without the liability of heating and injury on the passage. These kegs

are at present in active demand at 42s., while American are very unsaleable at 34s. to 36s.; we therefore recommend shippers not to refine their lard, nor put it up in expensive packages, but to send it forward in barrels, or brown-hooped kegs, carefully assorting the qualities, and keeping the leaf lard separate. We sold fine leaf lard in barrels, last week, at 40s., and fair quality at 38s., either of which prices must leave better results than if first refined and put into small, expensive packages; the same remarks are in a great measure applicable to bladdered, unless very neatly put up, and most carefully packed, it is extremely liable to breakage in the transit, and is also a difficult sale here, except the quality be very superior. The demand for bladdered is in fact giving way to the increased inquiry for the English refined in kegs, which are now turned out of hand so improved in quality, and so neat in package, that they are taken by families in preference to bladders. Seventy tons of American bladdered lard were bought, three weeks since, at 37s., for the sole purpose of re-melting, and about twenty tons of inferior at 32s. for chandlers' use.

Cheese is likely to rule low the coming season. The imports last year were so heavy, that it was at one time doubtful whether the whole would be got through, but on dropping the price to 36s. for fair average quality, the consumption took all off. The make of English is this year very large, and the prices fully 7s. to 10s. under those of last year. American cannot therefore compete except at low rates. We look for a range of prices from 34s. to 40s. for the general run, at which the consumption, we expect, would be equal to any reasonable supply.

PILKINTON'S IMPROVED PATENT SMUT MACHINE.



SMUT MACHINE.—FIG. 92.

THE inventor of this machine was awarded a premium of a gold medal, by the American Institute of New York. For particulars concerning its use see the advertisement of Messrs. A. B. Allen & Co., on page 383, of the current volume.

ANALYSIS OF NEW-JERSEY MARL.

THE sample of marl, left with me for analysis, from the pit of Mr. John C. Taylor, c Atlantic township, Monmouth county, New Jersey is composed of green, pulverulent masses, with dark granules scattered throughout. Upon washing a portion of the marl with water, it separated into two distinct masses, one a layer of fine, green-tinted, very light earth, and the other a layer of darker granules, which appeared quite black while moist, and were of a greater specific gravity than the greenish earth. The proportions, in 100 parts of each, yielded, by washing, were, of

Black granular matter,	70
Fine, green clay,	30
	100

This marl, on analysis, yielded the following constituents, in 100 parts:—

Black granules, insoluble in acid, &c. .	60.25
Alumina,	4.86
Carbonate of lime,	19.70
Magnesia,	29
Potash,	3.84
Chloride sodium, (common salt,) . .	1.12
Sulphate of lime,	44
Nitrate of potash,	a trace.
Phosphoric acid,	24
Organic matter,	1.71
Water,	6.80
Loss,	0.75
	100.00

The above analysis may be viewed in this way:

Matters soluble in water,	14.90
do. do. weak acid,	24.85
do. not soluble in either the above, .	60.25
	100.00

In examining the vegetable matter accurately, upon a first trial, I thought I could detect it giving off a faint trace of ammonia, but upon a repetition of the experiment, I could not obtain any. The green color is altogether confined to the fine, marly, clay interspersed between the black grains, and appears to be partly due to decomposing vegetable matter acting on iron salts in the clay, tending to keep them continually in the state of proto-salts. This green color is driven off by long burning in a crucible, and the igniting mass gives off sulphurous odors, arising from the vegetable matter acting on the sulphates in the marl.

The iron is derived from the blackish granules. The examination of this portion of the marl occupied a considerable time. At first, I was inclined to look upon them as fragments of hornblende detritus, but their constantly rounded and uncrystalline appearance forbids the conclusion. On examining them under a very powerful microscope, I satisfied myself fully that they are fossil microscopic shells of the brachiopodeus mollusca of the secondary period of the chalk formation. In figure, they resembled the forms of *catillus*, *plagiostoma*, *ostrea*, and *terebratula*. I picked out some specimens of *pecten*, and fragments of the *Belenites mucronatus* scattered through the mass. To dis-

tinguish their forms clearly, I had to digest them successively in sulphuric and nitric acids, by which all extraneous matters were dissolved out between the shells as well as the lime of the little shells themselves. This lime is included in the analysis return, and did not amount to more than $3\frac{1}{2}$ per cent. This is so much less than might be expected from molluscos shells, and the quantity of phosphoric acid in the whole marl being much less than even fossils should yield, that I am led to believe their ingredients, (lime and phosphoric acid,) have been dissolved out by the slow chemical action of time, and their place taken up by oxide of iron and silica, which has filtered into and fossilized the shells, and given them the dark color which they present on examination. After digestion in nitric acid, those grains lose their black color and are of a liver-brown tint, owing, (as I believe,) to the iron being converted into the red or peroxide by nitric acid. Small, however, chemically speaking, as the phosphoric acid is in amount, it is yet sufficiently abundant to give it a considerable agricultural value. This value is heightened by the amount of carbonate of lime, and above all by the large percentage of potash.

THOMAS ANTISELL, M. D.

Chemist to American Agricultural Association.

Laboratory of the A. A. A., 140 }
Grand St., New York, Oct. 31st, 1849. }

EXPERIMENTS OF AGRICULTURISTS.

WHEN we consider the number of intelligent citizens who are engaged to a greater or less extent in the cultivation of their grounds, we are not a little surprised, that we have no greater recorded variety of useful experiments from them, for the benefit of their brother farmers. Whatever may have been proved by one, would thus become the common property of the whole reading public, and available for all. These experiments need not be conducted on an extensive scale, nor embrace an important article of production, but may relate to anything connected with the subject of agriculture.

How easily might an experiment be made with the different kinds of manures, as top-dressings upon a lawn, where the result would be obvious to every visitor. It might be staked into various patches, each of which might receive an application either of lime, gypsum, marl, ashes, guano, bone dust, compost, or other manures. The cost of these, the quantity, and the effect for one or more years, of each separately, and two or more combined, or successively applied, could be accurately ascertained, as well as the product of grass, the kind and quality of which should be noted. Separate parts of a field might also be laid down to different kinds of forage, as the various species of clover, grasses, rye, oats, corn, spurry, lucern, tares, peas, &c.; and the comparative value of each, for feeding to different stock, at all seasons, early and late, might be ascertained. The proper rotation of these, and their order of succession, in various latitudes and soils, and with the different manures, would all form valuable additions to our agricultural knowledge. Similar information as to other crops, as of grain, roots, &c., would be equally beneficial to the community, which might

be obtained with considerable accuracy, and without much trouble, by an intelligent observing mind.

It is true, there is but a small proportion of persons engaged in agriculture, who have that quick, discriminating and accurate perception, neither do they possess that habitual ardor and watchfulness, nor do they adopt that careful observation and record of facts, which would entitle their conclusions to an unqualified acceptance. Yet there are some possessing these qualities in an eminent degree, who do not devote to the general weal, what they are so well capable of affording; and we have many more, who, with proper application, might be readily self-trained to this important habit. It is not to be expected that any one mind will be capable of accomplishing very great results; but each can contribute something to the object, and if all are thus attentive to it, the aggregate of benefit that will accrue, will, after a series of years, add vastly to our stores of agricultural information.

COCHIN-CHINA FOWLS.

I HAVE four pullets and one cock of Cochin-China breed, raised from a pair direct from Shanghai. They are nicely formed, very hardy, and full large enough, with feathered legs; but the feathers of the neck are not reversed on the back of the neck as is described in Richardson's little treatise on the domestic fowl. I would like to know whether this is a peculiarity of the breed or not. The cocks weigh, undressed, from 10 to 12 pounds.

JAMES C. TAYLOR.

Atlantic, Monmouth Co., N. J., }
October 6th, 1849. }

NEW WHIFFLETREE.—We observed, at the recent State Fair, at Syracuse, a newly-invented whiffletree, which may be used either with a single or double team, and is so constructed that one can throw off the tugs or traces, and detach the team from the vehicle at any speed, by simply pressing a spring placed in the bottom of the wagon, just in advance of the feet. The construction is perfectly simple, not liable to get out of repair, costs but little, and is susceptible of universal application. The operation of detaching the horse when under a full gallop, was repeatedly tried on the ground, and always with success. When a double team is used, an additional contrivance in connecting the *holdbacks* at the poles, prevents any obstacle to their escape. The inventor's name, who is a resident of Syracuse, has escaped us. We hope to hear of its successful introduction.

GUANO.—Does guano afford a permanent improvement to the soil, or does it act on the first crop, and then leave the land as poor, or poorer, than it was before? This is a question so often asked, we will once more answer, that this is like all other *stimulants*, whether applied to man or the soil, unless furnished with some other food, the effect will not be permanent. But give the land a small coat of marl, manure, or green crops, for the guano to work upon, and then it will be found that the effect will be not only beneficial to the first crop, but several succeeding ones. None but the genuine Peruvian guano can be depended upon. "Manufactured guano," in many cases, is nearly worthless.

Ladies' Department.

CHAMBER BIRDS.—No. 2.

Canaries—Breeding.—As remarked in our last number, the original color of the Canary bird is grey, which merges unto green beneath, almost resembling the colors of the linnet; but by means of domestication, climate, and intermixture with other birds, as the *citril* and *serin*, of Italy, and with the *Siskin* and *linnet*, of Germany, they have become so multifarious, that they are to be met with of almost every color and hue. Furthermore, in Europe, there are societies for promoting the breeds, and premiums are awarded to competitors who come nearest to the model of perfection given out for competition. The hybrids, most in favor, may be described as follows:—

1. The cross between the Canary and goldfinch. The colors of this variety consist of a very beautiful intermixture of those of both parents. One which has been highly prized, was marked in the middle of the crest with ashy grey; the rest of the head, and the upper part of the neck, was of a silvery white, with a bright orange-red ring round the base of the beak, and another ring of snowy whiteness round the neck; the back was greyish-brown, striped with black; the rump, white; the under part of the body, snow white; the vent, the wings, and the first pinion feathers, were also white; the rest, as well as the coverts, black, edged with yellow, and with a golden-yellow spot in the centre of the wings; the tail was white, with a black lateral spot; the beak and feet, white, the former with a black tip. The mother of this fine bird was white, with a greenish crest. In general, the handsomest varieties are produced when yellow or white Canaries are paired with goldfinches.

2. The cross between the Canary and the Siskin. This is perfectly like the female Siskin, if the male bird is a green Canary, but if the latter be white or yellow, it becomes rather brighter, and always retains the color and figure of the Siskin.

3. The cross between the Canary and the serin is distinguished only by its smaller size, and by its short, thick, beak, from the common grey or green Canary, unless produced by a white or yellow hen.

4. The cross between the Canary and the linnet. When the offspring of a grey Canary, its only difference is a slightly longer tail; but it is variegated or speckled when the Canary is yellow or white.

In order to obtain birds of a brilliant plumage, it is requisite to pair together such as are of similar markings, and the colors of which are regular and distinct. This is best effected in separate breeding cages. Variegated and checkered ones are often produced in aviaries where the birds pair together indiscriminately. Those of a greenish and brownish color paired with bright yellow ones, often produce beautiful dusky-white, or other favorite colors. A requisite precaution to be observed is, that a tufted and a smooth-headed bird should be paired; for, if two crested ones be placed together, a part of the head of their progeny will be bald, or otherwise deformed.

Some males are always dejected, sing but little, are indifferent to their mates, and consequently unfitted for breeding; others are too choleric, incessantly snap at, and chase about the females, and in-

deed, often kill them and their young; others, again, are too ardent, persecute the female while she is sitting, tear the nest, throw out the eggs, or continually excite her to pair, until she quits her eggs or neglects her young; others, in breeding time, sing so incessantly, and so powerfully, that they rupture the small vessels of the lungs, and suddenly drop dead in the midst of their song.

The females have also their defects. Some merely lay, and immediately quit their eggs as soon as laid; others feed their young badly, bite them, or pluck out their feathers; others lay with much exertion and labor, and when they should hatch become sickly, or lay again after a long interval.

The month of March is the best time to place the birds in the breeding cage. Of these, there are two kinds, either a large one, made of wire, in which it is better to place a male, and one female, than one male and two females together; or the range of an entire room. Both breeding places must be exposed to the warmth and light of the sun, and be hung about with rests made of turned wood, or little wicker baskets, two for each pair.



CANARY BREEDING CAGE.—FIG. 93.

About the cage or room, there should be placed some flax, soft hay, wool, hog's bristles, cow's hair, moss, pieces of thread, cut about a finger's length, paper, shavings, or other dry materials for building the nest, which usually occupies three days. When a room is allotted to the purpose, it ought to contain shrubs for the birds to perch or build upon, with a plenty of fresh water to drink and bathe in, that being indispensable for all birds. The light should be admitted into the east or south-east, for the benefit of the morning sun, and the windows should have wire cloth over them, that the birds may enjoy the fresh air. The floor of the apartment should be strewn with white gravel or sand, on which should be thrown groundsel or chickweed; but when breeding, they should have nothing except hard-chopped eggs, dry bread, cake without salt, and once in two or three days a few popy seeds.

Those birds which are to be paired for the first time, should be placed together in a small cage for a week or ten days, to be wanted to each other. If two females are to be paired with one male, they must previously be accustomed to each other's society, by being also kept together in a small cage; and the breeding cage should have two compartments, separated by a board, in which a sliding door has been made. In one compartment, a lively male may be enclosed with a female. When she has laid eggs, the sliding door may be moved and the male admitted to the other female; and when they have both laid, this door may be kept open. The male will visit both females alternately, when they will not trouble themselves about each other; otherwise, without this precaution, jealousy would incite them to destroy each other's nests and throw out the eggs. In a room, or aviary, a male has sometimes two and even three females placed with him; with one of these, he will more especially pair. But when this favorite is about to sit, the others will receive a share of his attentions, and from the latter usually the greatest number and the best birds are reared.

The female, as with the majority of birds, is usually the architect, the male only selecting the place and procuring materials, the coarser of which is used for the external structure, and the finer for lining the inside of the nest. The females will sometimes show indications of their instinct by building nests after their own fashion, generally being irregular in figure, and not nicely finished, at least externally. It is in the nest itself, where the pairing takes place, the female attracting the male by a continuous piping note, repeated more quickly the nearer she is to laying. An interval of seven or eight days elapses between the first pairing and laying the first egg. Every day afterwards, nearly at the same hour, an egg is laid, the number varying from two to six.

When the birds are good breeders, it is needless to attempt to assist nature by artificial means; and it is best to leave the birds entirely to themselves. In other cases, it is customary to remove the first egg, and replace it by an ivory one, placing it in a box filled with clean, dry sand, and so taking away all the eggs till the last one is laid; all are then returned to the nest to be hatched. They often lay three or four times a-year, from March to September, and some are so assiduous in pairing, that even moulting does not interrupt them. The eggs are of a sea-green color, marked on one end with reddish-brown or violet spots or stripes. The period of incubation lasts thirteen days.

If, from the sickness of the male, or of the female, any of the eggs are unimpregnated, they must be taken out of the nest when the hen has sat for a week or ten days, held lightly between the fingers in the sunshine, or in a bright light; the fecundated ones will then appear filled with veins, while the bad ones will be quite clear, or already added, the latter of which must be thrown away. The male rarely relieves the female in hatching, nor does she very willingly permit it. Immediately after feeding, she returns to the eggs, and should the male perchance be on the nest at the time, if he should not directly quit, he would speedily be compelled to do so by pecks and blows. The young are occasionally killed in the egg, in consequence

of loud and near noises, such as heavy thunder, the firing of fire-arms, violently slamming the door, or any other very loud knocking.—*Americanized from the German.*

A NEW PREMIUM FOR HOUSEHOLD PRODUCTS.

WE notice that the Agricultural Society of Keene, N. H., have awarded a premium to a Mrs. Livermore, a clergyman's lady, for the best home-made bread. We like this idea well, and hope to see it acted upon by other societies. Let the staff of life be taken in hand, and let the premiums offered be appropriate and worthy the object of having a good loaf of bread.

The truth is, the premium lists of our agricultural societies do need revising, altering, and amending, exceedingly. We shall take an early opportunity to offer a few hints upon this matter. Among the rest we shall certainly remember good bread. For we maintain that good bread is intimately related to good morals, as well as happiness, and certainly to good health. Ladies, if you would "keep all quiet at home" and keep your husbands there, keep them well supplied with good bread, and let it be the handiwork of your own hands, sweetened with smiles, and lightened with love; and my word for it, your household shall not only be blessed, but it shall bless you.

FIRE PRECAUTIONS.

THERE are few fires that might not have been prevented by the exercise of prudence, and a vast number which have been caused by negligence, arising from sheer laziness. The practice of reading in bed, for instance, is a common cause of fires, which cannot be too highly censured. If the following precautions are strictly observed, accidents by fire will rarely occur, either in country or town:—

1. Avoid leaving your light burning at the side of your bed, but place it on a table, stand, or the floor, at a proper distance from any inflammable substance.
2. Never set aside a bucket, cask, nor box containing hot ashes, or cinders, either in a closet or a cellar.
3. Never suffer a piece of lighted paper, cigar, nor other ignited substance to remain on the floor without immediately extinguishing it by treading on it, or otherwise.
4. Never enter a barn or stable, nor other room containing inflammable substances, with a naked light. A close lantern should always be used.
5. Never blow out gas lights, but always extinguish them by turning off the supply. Should the smell of gas be strong, immediately close the cock at the meter, and avoid carrying a light into the apartment where the escape has taken place, before the gas has been removed by ventilation.
6. Have your chimneys kept clean by frequent sweeping.

WASHING MADE EASY.—Make a suds as usual, then add about a tea-spoonful of spirits of turpentine to each bucket of water, stir it up, put in the clothes, and let them soak an hour and a half, and then boil them as usual. Unless very dirty, they will need no rubbing, the turpentine having the effect to loosen the dirt. "One wife" says it is invaluable.

FOREIGN AGRICULTURAL NEWS.

WE are in receipt of our foreign journals to 3d of November.

MARKETS.—*Cotton* has fallen $\frac{1}{4}$ d per lb.; transactions the past week quite limited. *Flour, Corn, Beef, and Pork* in steady demand. *Cheese* scarce at an advance. *Tobacco*, very large sales with an upward tendency. *Wool*, firmer with active sales.

Money abundant at $2\frac{1}{2}$ to 3 per cent.

Destruction of Weeds.—Mr. George W. Fowler, of Prince Hall, Dartmore, England, since the 24th of May last, has destroyed 115,989 docks and thistles, and not less than 500,000 other weeds.

Charring Timber.—The best method of charring the surface of wood, is to wet it with the most highly concentrated oil of vitriol. By this means, you carbonize not only the outer surface, but the surface of all the cracks and holes.—*London Chemical Times.*

Gas Tar, or Asphaltic Floor.—Dig sifted gravel such as is used for topping walks, and use coal-gas tar; level the ground perfectly, mix gravel and tar, two quarts of the latter to each bushel of the former, till every particle of gravel is saturated with tar. This is best done on a boarded or stone floor; spread evenly, about one inch thick; roll till hard with a heavy garden roller. When dry, add from two to five inches more, according to the purpose for which the floor is required. Roll as soon as laid, and frequently, until it is quite solid.—*Gardeners' Chronicle.*

Mortality of Cattle in England.—It is estimated that the annual loss of cattle in England, from disease and various causes is five per cent. on the total amount. This is confirmed by the calculations of the British "Farmers' and Graziers' Mutual Cattle Insurance Association."

A Cheap Filter for Water.—A very simple means exists, by which any poor family may filter all the water required, viz:—by using a large pan or tub as the tank, and filtering the water, (by ascension,) through a sponge stuffed into the hole in the bottom of flower-pots, using two pots, the lower one being half filled with charcoal, and loosely covered with thin flannel, the upper one placed in it so as to sink the flannel with it, and then secured by a string; nothing can be more simple nor more easily cleansed.—*The Builder.*

Importation of Danish Cattle into England.—The steamship Neptune, arrived from Bremen, has brought 171 oxen and cows, in addition to a general cargo of provisions; the steamship Wilberforce, from Tonningen 201 oxen and cows, forming the entire cargo; the Free Trade, from Tonningen, 161 oxen and cows, and 42 sheep; the Eider, from Tonningen, 175 oxen and cows, 25 sheep, and 20 lambs; and the large steamship Trident, arrived from Tonningen, has brought 284 head of horned cattle, comprised the entire cargo, consigned to order; the whole, with the exception of one arrived from Bremen, being the produce of Denmark.—*Agricultural Gazette.*

Security of Corn in Harvesting.—There are two modes of practice in harvesting wheat. Formerly it was deemed of the utmost consequence that the corn should remain uncut till it became dead ripe, and every ear of wheat had assumed the bend or curve, which was styled the "swan neck." After a time—and considerably within the present century—it was discovered, that if wheat were cut or reaped while it retained some moisture in the grain, and even in the straw, the quantity and quality of the flour would be increased and improved, while the bran would be lessened. In proof of the fact, if two perfect grains of wheat, one left untouched till quite ripe, the other left to ripen a-field in the sheaf, after having been reaped in a certain state of immaturity, be cut across the middle with a very sharp knife, the coating integument of the former will be hard and horny, show-

ing a reduced bulk of soft white flour, while that of the latter will be comparatively soft and tender, the bran thin, and simply membranaceous, and full of delicate flour. To the baker and public consumer, these latter conditions are of great consequence, hence the philanthropic grower has sanctioned the practice of early cutting, and strongly advocated it in the best agricultural publications.—*Farmer's Herald.*

A New Feed for Sheep.—Distillers' Grain, or "daff," which cattle feeders have hitherto found so far from realizing their expectations in laying on fat, has, of late, been used, we understand, by Mr. Finnie of Swanston, in feeding sheep with singular success. So satisfied is Mr. Finnie of the advantage of the application of distillers' grain, both in respect of economy and improvement, that he is fully determined to feed his sheep stock in this way throughout the ensuing winter. Those whose farms are in the neighborhood of distilleries might, for their own satisfaction, test the desirableness of this mode of feeding on a small scale, and should they come to the same result, we shall have pleasure in receiving a communication from them on the subject.—*Farmers' Herald.*

Mr. Tomblle Lomba's Plan of Saving Potatoes.—On the 16th of August, four days after the disease had first showed itself in the field, a correspondent to the London Agricultural Gazette had the tops cut off and the ridges earthed up on a fair spot of ground, measuring about four land yards, the potatoes being just off the bloom. The crop has just been dug, and the produce of the spot treated according to Mr. T. L.'s plan has been carefully weighed against two equal spots, one just above, and the other just below it. Here is the result:—

	Market Potatoes.	Seed Potatoes.	Small.
	lbs.	lbs.	lbs.
1, Above,	413	67	46
2, Cut down,	425	84	59
3, Below,	464	85	67

The tubers were alike sound, so this proves nothing in that respect, but it is satisfactory, (No. 2 being the Tombelles), as showing that growth certainly does go on in the tuber after the haulm is removed.

Soot as a Manure for Potatoes.—We saw a few days ago, a few miles from this city, one of the finest fields of potatoes that we have met with since the rot appeared some years since, and we are told by the intelligent occupier of the farm that the manure used was soot, and that he has tried it both with early and late potatoes with great success, the crop being large and very healthy. From another field, which had been manured with soot, one root alone produced 87 potatoes, and the most of them good sized and perfectly sound, as all the rest of the crop were, some being 40, others 50 to each root.—*Gloucester Chron.*

Wheat Ear with an Oat in it.—A quick-sighted correspondent to the editor of the London Gardeners' Chronicle lately sent an ear of wheat with an oat flower growing out of it. On pulling the ear to pieces, chaff after chaff, the wheat came away and the origin of the oat was laid bare; but its stalk had turned round the central axis of the ear; more chaff was pulled away, another turn was discovered. At last, after destroying the chaff both above and below, off dropped the oat. Its stalk had twisted itself round the ear of wheat when both were very young; they had grown up together linked in strict embrace; the chaff of the wheat had completely hidden the stalk of the oat, which at last, by some accident or violence, was snapped from its parent, and left clinging to its supporter, all trace of its origin being hidden. Have not such accidents as this led to the positive assertions that one kind of grain will change into another? Certainly: and this is one way in which wheat turns to chess.

Editors' Table.

AMERICAN POMOLOGICAL CONGRESS.—It should have been stated in our November number that the American Institute very liberally fitted up the room at Castle Garden in which the American Pomological Congress held their late meetings, at an expense of some \$75, and tendered the use thereof to said Congress, free of charge.

A GRATIFYING PREMIUM.—Among the list of premiums awarded by the Fairfield, (Connecticut,) county Agricultural Society, held at Bridgeport on the 10th and 11th October, we find the following:—

“To A. B. Allen & Co., of New York, greatest and best assortment of Agricultural, Horticultural, and Garden Tools, including plows, cultivators, corn-sheller, straw cutter, garden engine, garden tool chest, patent folding ladder, Agricultural Books, &c., \$25 and a Diploma.”

We are much obliged to the Fairfield-County Society for its appreciation of the merits of our implements; but as we did not exhibit them for the purpose of gaining money, we hereby tender the twenty-five dollars awarded us, to the society, with the request that it will distribute the same among its own citizens in premiums next year. It is quite gratification enough for us to have the honor of receiving a premium, without taking the money for it.

THE BRITISH REVIEW AND BLACKWOOD'S MAGAZINE.—For notice and terms of these able and excellent periodicals, see advertisement.

MICHIGAN STATE AGRICULTURAL SOCIETY.—The first exhibition of this society was held at Detroit, in the last week of September, and proved highly successful. Over twenty thousand persons were present, and the receipts were rising \$3,000. This is highly satisfactory for a first exhibition in so new a state, and shows that the spirit of agricultural improvement is abroad.

EXPERIMENTS IN APPLYING GUANO TO POTATOES.—The Maryland Farmers, the past year, have tried various experiments in planting potatoes with guano, and find that when it is put on top of the hill or drill, and slightly covered with earth, the yield is much greater than when placed at the bottom of the hill.

MORTALITY AMONG CALVES, to an alarming extent prevails on Black River, in Louisiana, that cannot be accounted for. So says the Concordia Intelligencer. The animals are smitten, as with a plague, and sink down in an instant. No remedy as yet has been discovered.

POTATO ROT.—We learn that the rot has shown itself in the vicinity of Newburgh, New York, to considerable extent. It is the “wet rot” and attacks the potatoes after they have been some time dug.

WHISKEY TRADE OF CINCINNATI.—The whiskey trade of Cincinnati is enormous. During the commercial year of 1847-8, there were 170,436 barrels exported. During the year of 1848-9, the imports were 186,509—exports 136,941 barrels.—*Exchange.*

LADIES IN THE ASCENDANT.—At the Bourbon, Kentucky, Agricultural Fair, held last month, Mrs. Chapman Coleman, daughter of Governor Crittenden, received the premium a \$100 silver cup, for the best silk quilt, made with her own hands.

GOOD CROPS.—At the Sullivan County Agricultural Society's Meeting, the President reported that Mr. Wm. H. Cawford raised 100 bushels, 1 peck, 1 quart, and 1 pint of shelled corn per acre. Mr. J. P. Jones raised over 195 bushels of ears per acre, at a net profit of \$40.12; others from 80 to 90 bushels of shelled corn. Mr. Joseph Lounsberry grew 41 bushels and 7 quarts rye to the acre; others 31 to 41 bushels. Mr. Charles Smith raised 56½ bushels of oats per acre,

weighing 35 lbs. per bushel. Mr. Jonathan Hoyt raised over 50 bushels buckwheat per acre, at a net profit of \$18.20. Mr. S. Wheeler raised at the rate of 354 bushels of potatoes per acre. Turnip and other crops were equally good. This shows that not only large but profitable crops can be raised, whenever the farmers please to set about it in right good earnest.

SIGNS OF RAIN.—The air, when dry, I believe, refracts more red, or heat-making rays; and as dry air is not perfectly transparent, they are again reflected in the horizon. I have generally observed a coppery or yellow sunset to foretell rain, but as an indication of wet weather approaching, nothing is more certain than a halo round the moon, which is produced by the precipitated water; and the larger the circle, the nearer the clouds, and consequently the more ready to fall.—*S. H. Davy.*

PEACHES FROM PLUM TREES.—Mr. W. D. Beach, of Livingston, New York has raised some delicious specimens of peaches, taken from a grafted wild horse plum tree, which is perfectly hardy. One peach is ten inches in circumference. This is the second year that the graft has produced peaches.—*Exchange.*

HOW TO STOP GULLIES.—Begin at one side of the gully, at a distance to which the water cannot rise, and drive down a short stake. Carry a row of stakes, thus driven in across the gully to an equal distance on the other side. Let the stakes be near enough to each other to admit of wattling. Then wattle them with brush. Pine brush is the best, because it more completely intercepts the sand. The water will pass through the brush, but the mould will be detained, and your land saved. Several of these rows should be run across the gullies, at proper distances from top to bottom.—*South Carolinian.*

DELAWARE MUTTON.—The Baltimore Patriot says:—“The splendid sheep exhibited at the late Agricultural Fair, by Mr. C. B. Reybold, of Delaware, was yesterday served up to the guests of the Eutaw House. The sheep weighed 274 lbs. “on the foot,” and when killed and dressed, 178½ lbs. It received the premium for the best mutton at the fair. Mr. Jackson, the proprietor of the Eutaw, purchased it for 20 cents a pound, and it was yesterday cooked, dressed, and eaten, and was by every one of the hundreds who partook of it pronounced most excellent mutton. Never had a sheep more encomiums bestowed upon him, and were it to be presumed to be curious of such things, it would rejoice now in knowing, that it was more honored in its death than any of its tribe ever was before.”

CALIFORNIA FARMING.—We have hitherto heard only of gold from California—from the following, we judge we shall speedily hear of farming in that far off region—“A few miles below this place, there is a man by the name of Swartz, who has a farm on the river, 18 miles by 3. He came here in 1841, and obtained this farm as a gift from the Mexican government. I saw about 16 acres of it, covered with potatoes, cabbages, beans, corn, &c., the worth of which, he tells me, is twenty thousand dollars, and that he can sell his produce faster than he can raise it, at the following prices, viz.:—potatoes \$1 per lb; water melons \$2 each; corn, 8 ears for \$1; cucumbers, 6 for \$1.” If one fourth of the persons who have gone to California to dig gold had gone to digging the soil and raising food, they would have made probably four times the amount of net profits they will now realize. They will be wiser in time; and we shall probably hear, another season, of large quantities of fertile land brought into successful and profitable cultivation.

ENCLOSE new flannel in a bag; put it into a boiler with cold water; heat and boil it. It will never shrink any more after this operation, and should then be made up into garments.—*Maine Farmer.*

REVIEW OF THE MARKET.

PRICES CURRENT IN NEW YORK, NOVEMBER 15, 1849.

ASHES, Pots,.....per 100 lbs.	\$7 00	to	\$7 12
Pearls,.....do.	6 31	"	6 38
BALE ROPE,.....lb.	9	"	11
BARK, Quercitron,.....ton.	40 00	"	41 00
BEANS, White,.....bush.	75	"	1 25
BEESEWAX, Am. Yellow,.....lb.	19	"	22
BOLT ROPE,.....do.	10	"	12
BONES, ground,.....bush.	40	"	55
BRISTLES, American,.....lb.	25	"	65
BUTTER, Table,.....do.	15	"	25
Shipping,.....do.	9	"	15
CANDLES, Mould, Tallow,.....do.	10	"	13
Sperm,.....do.	25	"	40
Stearic,.....do.	20	"	25
CHEESE,.....do.	5	"	10
COAL, Anthracite,.....2,000 lbs.	5 00	"	6 00
CORDAGE, American,.....lb.	11	"	13
COTTON,.....do.	9	"	13
COTTON BAGGING, Amer. hemp,.....yard,	15	"	16
FEATHERS,.....lb.	30	"	40
FLAX, American,.....do.	8	"	9
FLOUR, Northern, Southern and West'n bbl.	4 25	"	5 33
Fancy,.....do.	5 50	"	6 50
Richmond City Mills,.....do.	6 50	"	6 75
Buckwheat,.....do.	—	"	—
Rye,.....do.	2 81	"	3 00
GRAIN—Wheat, Western,.....bush.	1 05	"	1 30
Red and Mixed,.....do.	80	"	1 15
Rye,.....do.	61	"	62
Corn, Northern,.....do.	64	"	66
Southern,.....do.	60	"	65
Barley,.....do.	54	"	60
Oats,.....do.	34	"	42
GUANO, Peruvian,.....2,000 lbs.	45 00	"	50 00
" Patagonian,.....do.	30 00	"	35 00
HAY, in bales,.....do.	40	"	50
HEMP, Russia, clean,.....ton.	190 00	"	195 00
American, water-rotted,.....do.	160 00	"	220 00
American, dew-rotted,.....do.	140 00	"	175 00
HIDES, Dry Southern,.....do.	8	"	9
HOPS,.....lb.	6	"	15
HORNS,.....do.	2 00	"	10 00
LEAD, pig,.....do.	4 25	"	4 30
Pipes for Pumps, &c.....lb.	5	"	7
MEAL, Corn,.....bbl.	3 06	"	3 38
Corn,.....dhd.	15 50	"	16 00
MOLASSES, New Orleans,.....gal.	22	"	23
MUSTARD, American,.....lb.	16	"	31
NAVAL STORES—Tar,.....bbl.	1 75	"	1 88
Pitch,.....do.	1 25	"	1 75
Rosin,.....do.	95	"	1 10
Turpentine,.....do.	2 50	"	2 75
Spirits Turpentine, Southern,.....gal.	32	"	35
OIL, Linseed, American,.....do.	70	"	75
Castor,.....do.	1 50	"	1 70
Lard,.....do.	60	"	70
OIL CAKE,.....100 lbs.	1 25	"	1 50
PEAS, Field,.....bush.	75	"	1 25
Black-eyed,.....2 do	1 50	"	1 75
PLASTER OF PARIS,.....ton.	2 00	"	2 75
Ground, in bbls.,.....of 300 lbs.	1 12	"	1 25
PROVISIONS—Beef, Mess,.....bbl.	9 00	"	12 00
Prime,.....do.	6 00	"	9 00
Smoked.....lb.	6	"	12
Rounds, in pickle,.....do.	4	"	6
Pork, Mess,.....bbl.	10 00	"	13 00
Prime,.....do.	6 50	"	10 50
Lard,.....lb.	6	"	7
Bacon sides, Smoked,.....do.	3	"	4 1/2
In pickle,.....do.	3	"	4
Hams, Smoked,.....do.	5	"	9
Pickled,.....do.	4	"	7
Shoulders, Smoked,.....do.	4	"	6
Pickled,.....do.	3	"	4
RICE,.....100 lbs.	2 25	"	3 62
SALT,.....sack,	90	"	1 43
Common,.....bush.	20	"	35
SEEDS—Clover,.....lb.	6	"	7 1/2
Timothy,.....bush.	2 00	"	3 50
Flax, clean.....do.	1 40	"	1 50
rough,.....do.	1 30	"	1 40
SODA, Ash, cont'g 80 per cent. soda,.....lb.	3	"	—
Sulphate Soda, ground,.....do.	1	"	—
SUGAR, New Orleans,.....do.	4	"	6
SUMAC, American,.....ton.	35 00	"	37 00
TALLOW,.....lb.	7	"	8
TOBACCO,.....do.	3	"	9
WHISKY, American,.....gal.	26	"	27
WOOLS, Saxony,.....lb.	40	"	60
Merino,.....do.	35	"	40
Grade Merino,.....do.	30	"	35
Common,.....do.	20	"	30

NEW-YORK CATTLE MARKET.

At Market.—1,100 Beeves, (300 southern, the remainder from this state and east,) 70 Cows and Calves, and 5,000 Sheep and Lambs.

Beef Cattle.—The market for these rather dull, but prices firm. Sales of good retailing beef at from \$6.00 to \$7.75 per hundred pounds, according to quality. The number on hand, unsold, is estimated at 100 head.

Cows and Calves.—The prices of these run from \$22 to \$42.50. All sold.

Sheep and Lambs.—The market for these is brisk, the Sheep selling at from \$1.12 1/2 to \$5 each, and the Lambs from \$1 to \$2.75 each. The number left unsold, about 400.

REMARKS.—No change of consequence in the market since our last. Business still continues active. The fine autumnal weather has been highly favorable for cotton picking, and the result is, that the crop will be larger than was anticipated. The Sugar crop also promises more abundantly.

TO CORRESPONDENTS.—Communications have been received from William Eldred, B. B. Kirtland, James C. Taylor, H. E. DeJanno, Henry L. Smith, A Connecticut Farmer, A. E. Lawrence, and E. Carpenter.

Wm. H. B. C.—Nothing can be got of the parties you complain of. The advertisement was inserted by the publisher without our knowledge, till too late to stop it. We regretted its appearance, and it has been much more to our injury than yours.

ACKNOWLEDGMENTS.—Proceedings of the Academy of Natural Sciences, of Philadelphia; Proceedings of the Clinton and Sullivan County fairs.

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